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MAY, 1906.

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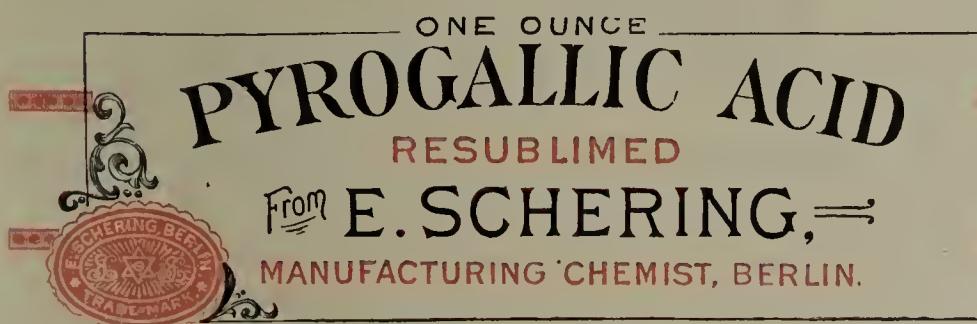
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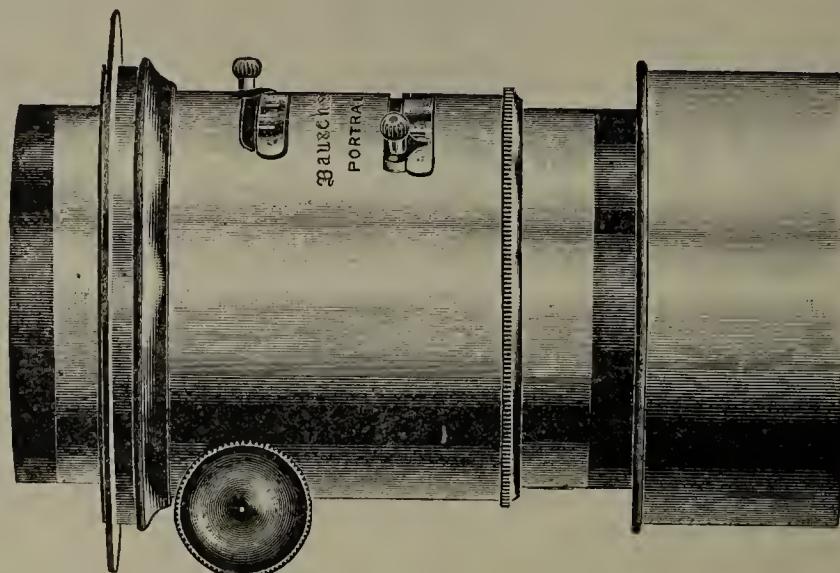
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PORTRAIT

By Eugene R. Hutchinson.

THE PHOTOGRAPHIC TIMES

VOL. XXXVIII.

MAY, 1906.

No. 5.

HOME PORTRAITURE FROM THE PROFESSIONAL POINT OF VIEW

BY EUGENE R. HUTCHINSON

SO much interest has of late been expressed on this subject, both by the professional and amateur, that anything said or written of it seems to be devoured with eagerness, but, judging from the greater part of results, little has been digested and comparatively few have taken up this branch exclusively. Generally speaking, the professional is still relying on his skylight and the amateur on his accidents for "choice stuff."

To adopt one's self to conditions as found;—never two exactly alike and seldom similar—to improvise; to possess the ability to see things in their proper photographic values; to have a knowledge of the manipulation of light and shade and to bring about a harmonious blending and balance thus *keeping* tone values on these, more than on actual photography, will success be in just proportion, as they are rightly used. And the worker will always be taxed to the limit of his ability, for the enthusiast never arrives—everything being just a little short of what was intended. The matter of necessarily meeting sitters in their own homes, turns tables on you, (though this should be an advantage), and here your tact and judgment will in every way be tested. But this is to be a

monograph on technique, as far as is possible to deal with it the limited space allotted me not on personalities, and though technique should form a goodly part of the photographer's education, I am convinced that were it made a matter of feeling rather than an actuality, more beautiful results would be accomplished by the average professional to-day. The greatest handicaps he has are his photographic traditions and timidity in experimenting for himself, being satisfied with the last fad.

Practically it is useless to formulate any method for this work, or even a general principle, and the one who contemplates taking it up by rule is to be discouraged in the beginning. Only through observation by repeated failures, do we progress in anything and in this in particular.

A 10x12 view camera, with 5x7 attachment, an 8x10 portrait lens of 14 inch focus, working at F.4.5, plenty of plate holders of both sizes, tripod and tripod stay, a supply of white tissue paper and a few black cloths, packed in a case, comprise my outfit, unless going some distance for a day or two, when extra plates are taken.

A dark closet can always be found. A few plates are always backed and gen-



PORTRAIT

By Eugene R. Hutchinson.

erally used, windows a great many times, can be introduced with effect and one is then prepared for it. It is assumed that the worker has never been in the residence in which the sitting is to be made and can consider himself most fortunate if he has had an opportunity to meet his patron and see the possibilities of the house. The case containing this outfit is, of course heavy, but this size meets all my requirements and the little one pays for carriage hire, is more than made up in the strength saved, in lugging even a smaller one. You will need all your strength later.

It is my custom to look all over a house for the best available light. By this, is meant essentially, an unobstructed window, not necessarily one to the north; and even if direct sun rays do pour in, there is tissue paper to soften it. Run the shades clear to the top; with one of the black cloths, cut off the lower half of the light, and if necessary, soften the upper. A good supply of push pins will always be needed and with them put up your back ground, if one is to be used. Nearly every home, I find, has some kind of a screen which will simplify matters, but not finding this, use the black cloths,



PORTRAIT

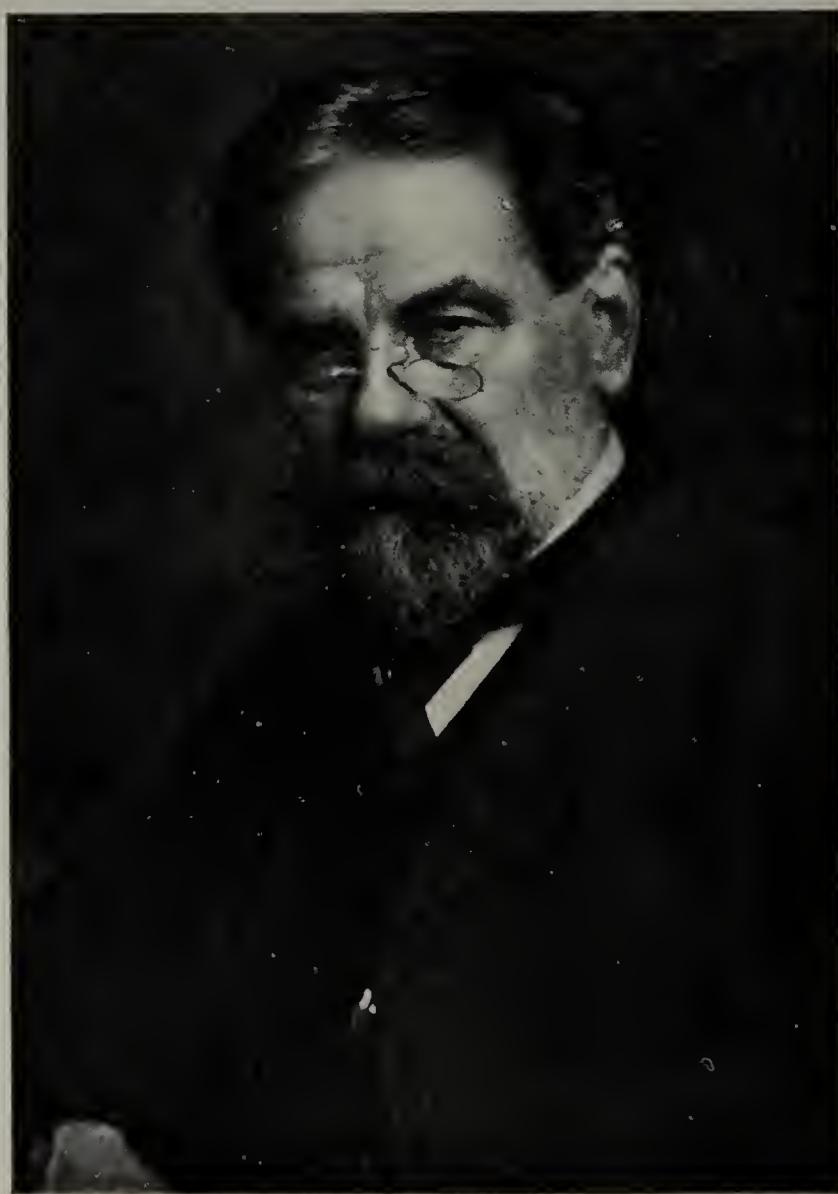
By Eugene R. Hutchinson.

put up with the pins which, by the way, hold in plaster and do not leave a mark when withdrawn. The subject and camera both are close to the wall and the sitter very close to the window. This last, I believe, is contrary to general advice, but by all means try both ways. A diagram gives a better idea and the one shown applies oftener than any other.

Very seldom can a light back ground be used, because of the strong shadows thrown by such concentrated light. I much prefer the darker ones which may be lightened to any degree desired and

then, too, anything can be worked in afterward, to which the subject lends itself. Also, etching is simplified by using such a ground, or, if the paper used in softening the light or as a reflector shows, the marks made by the etching knife or glass in its removing are not seen in prints made on platinum or printing out papers. All the back grounds in the accompanying prints were worked in on the plate and the possibilities in that direction are only limited by the workers knowledge of drawing.

In the case of children all the light it is possible to get is used, rapidity being



PORTRAIT

By Eugene R. Hutchinson.

the thing, depending on an under timed plate for contrast lost in flat lighting. Personally, I prefer under timed plates in any event which necessitates this after treatment.

As to whether or not this is photography, has no place here, the end, I believe, justifying the means, no matter how short of it one comes. Plates cannot be timed uniformly, the exposures being governed by the requirements and limitations of the particular case in hand.

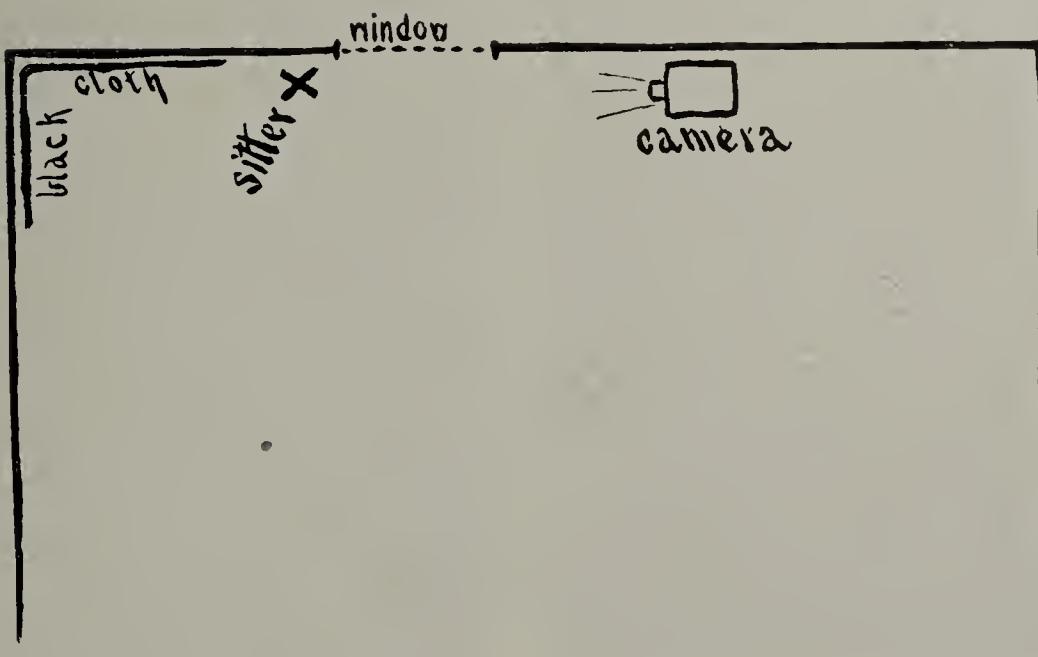
Perhaps some reader in looking over the examples here given will think, as

did a well known writer on photographic subjects, when looking over some prints he said "They may be home portraits but do not look the part. Smack too much of the professional." Very possibly this is true, but the catering to popular taste, making "Pot boilers," has a tendency to force one to technical rather than artistic excellence, but being aware that such is the case, are we not forewarned? You know how to load your plate holder, set up your camera, focus, develop and print. You know that if a face is white on one side and black on the other and you do not like it, either

the light must be softened or the shadow lightened. It all depends upon the individual and reverts to the old story so many tired of hearing, (because it is true, no doubt) study, observe and work it out for yourself. By this alone will you grow and if there is not a love of the work through every detail to force one to do these three things, well—back to the studio. After all, technique is of so little importance to one who desires to make photographic portraits which *are* portraits and yet rank as pictures, and did the education in drawing come first and photography second, we would have more really good works in this medium. An artistic, well balanced picture and a photograph made of a human face, or even a good likeness, are

not synonymous by any means, and while some of the results accomplished in the way set forth may not meet with approval of critics of the artistic in photography, yet each one here shown has, or had, its commercial value and was a pleasure to the sitter. This, to the professional, is of some importance.

Books of instruction may be found on this subject which contain much good, and deal with the details at length and which, by all means, should be read; but no amount of reading, no amount of arm chair theories, will do one tenth the good as will a weeks practical work and a pile of disappointing negatives. Each trial teaches something which perhaps the author of a most elaborate work on the subject, failed to come in contact with.



FLOWER PHOTOGRAPHY

BY GEORGE ALEXANDER.

FLOWERS to be photographed should be kept in water in a cool room for a few hours before using. This prevents wilting when trying to arrange them.

A good deal depends upon the form of the flower, so it is necessary to get the right lighting in order to show the rounding.

idea to take a little spray, moving it around until the right light is found. Having decided upon the lighting, the arrangement of the flowers is next in order. This is usually the most difficult part. It is well to use as few as possible, and especially is this true of foliage, the shadows in the leaves being apt to come out black.

Often, in arranging Powers, I find it an advantage to cut a stem, shorten it at any desired place and connect again by placing a needle in the center of the stem. The position of a blossom may be altered in the same way. The next thing to do is to find a suitable background. I have two large sheets of mat board, the one black and the other one



The main point in lighting is softness. I use an ordinary window in which the sun is not shining, covering up the lower quarter next to the flowers. It is a good



dark gray, and generally find one or the other suitable. The background must be far enough away to avoid shadows.

I have the diaphragm wide open and focus as sharply as I can, then stop down to 32 U.S. giving a comparatively long exposure. For white flowers with leaves the average exposure is two minutes.

I use an isochromatic plate but no screen. For developing I use the pyro

formula which comes with the brand of plates, being careful not to carry the development too far.

The chief aim is to get a negative which is full of detail yet soft in its gradations and dense enough to make a good point on any brand of paper.

For such results I depend upon the lighting and exposure, not upon the development.



FLOWER STUDY

By George Alexander

CHARACTER LIGHTING AND POSING.

BY FELIX RAYMER.

SINCE conducting this series of articles I have received several letters from readers of the TIMES, and I find in going over them that in the majority of cases the question is asked "How do you control your light so as to get the character you mention in your articles" and also "If you see a certain faculty or faculties in your subjects face that you want to show strongly in the photograph how do you manage the light so as to show these faculties stronger." These two questions are practically the same and I will handle them the same. The answer to one will be the answer to the other.

As I have stated several times in the course of these articles, I believe the time will come when this matter of reading the character in our subjects faces and the making of the pictures so as to show the best parts of the face will become a necessity, and that all operators will be required to understand more or less of it. It is an easy matter for one to get a fair knowledge of character reading from certain well-known books on this subject which I think every operator should have. I will mention here that my greatest benefit has come through the books of Fowler & Wells, New York, and L. A. Vaught, Chicago. After studying these books for some time I think the operator will be in better position to understand the making of pictures for "each face itself." It has been an oft repeated maxim among operators to "light each face for itself." This in my opinion is largely a lot of tommyrot. The operator often imagines he is the whole thing and that he is lighting each face differently from all other faces, when it is

not that at all, but that each face is different and of course the light falls on it differently from all other faces. The operator has no choice but to make them different for he could not change them if he wanted to. All he can do is to concentrate the light more or less, making certain parts stronger than other parts, and this is done by making the opening in the light smaller than at other times. If we want the light to be rather strong in its nature we make the opening smaller and move the subject nearer to it, thus concentrating the light at some particular part of the face, and in doing so we of course make some other part of the face lower in the key and thus secure concentration of light and shade.

This knowledge of concentration of light and shade makes it possible for the operator to strengthen or reduce the character in the face of his subject. Now, it matters not what style light one has to work, as I have repeatedly said, so long as one first knows what he wants to get out of that light. It is not what style light one should have to get the best results, but the knowledge of what is good work that makes it possible for one to get good work from any light. All work that is good has the same good principles. While all work that is bad, has if not the same bad principles at least some of them. If one knows what good work is it is natural for him to try and reproduce that good work, and in trying he will at last arrive at a definite idea of what to do to get that good work.

In all lights, there are two separate effects of light. If the style of the light is double slant, there is the side effect and the top effect. If the light is the single slant, there is still the side effect

and the top effect. If the light is only an ordinary window the side effect and the top effect are there just the same as in the two former cases. Now the operator must know how to get these *two* effects before he can make good pictures, and at the same time he must be able to dispose of one of them if necessary, or be able to modify one and so on. In the double slant it is an easy matter to close off all of the side light if we want the top effect. Or vice versa. But often it puzzles the operator to get the top effect with the single slant or window. But it is the same principle with them as with the double slant. The top effect is secured in the two latter cases, by moving the subject up to the light and closing off the lower part of it, or the side light in other words.

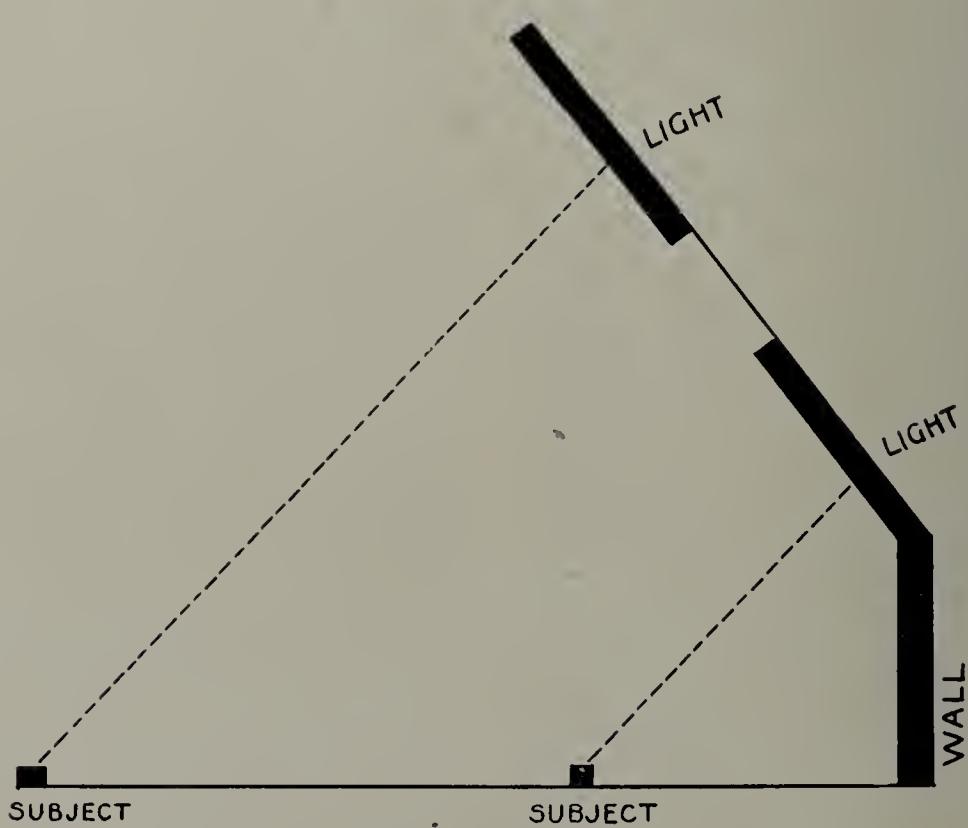
Now, we arrive at the quality of each effect. All or most all know that the use of abundance of top light softens the effect of the lighting, giving a flatter result. On the other hand the use of an excess of side light strengthens the effect giving more contrast. This knowledge of the light is necessary to lighting for character. If we want to make a soft light, we do so by moving the subject from the light and using more of the top part of it, be it single slant, double slant, or window. If we want more contrast or strength in the light we get it by moving the subject to the light and lowering the light until we are using more of the side-light. This is necessary that we may concentrate the light stronger at one or more parts of the face in the latter case, while in the first case the softness is secured by the light reaching the subject in a more diffused form. Now the connection in this and character lighting is this. If we have a face that has lines or wrinkles in it and these wrinkles run across the face horizontally, and we desire to make them appear as strongly

as possible in the finished picture, it cannot be done by moving the subject up to the light and concentrating the light to a small opening. For to do this would necessitate the lowering of the source of light so much that it would be falling in the wrinkles or lines, and filling them with light thus obliterating them, and destroying the character. In other words, if we have lines running in one direction, the light should be made to fall in the other direction if we are to make the character stronger. If I had such a subject and I wanted the character to show strongly, I would move him well away from the light, say the same distance that it measures in length, and close off most of the lower light. This causes the light to take more of a downward sweep and in passing *across* the lines of course makes them stronger.

Next we come to the faces in which there are lines running more in a perpendicular direction, or up and down. These lines may not run perfectly straight up and down, but they incline that way. To this class of faces we will find most old heads. I have noticed at many of the conventional heads of old people that would have been exquisite as regards art studies, if the light had been so arranged that it would cross the lines instead of running with them. In most old heads we will find that the lines between the brows run up and down, also that there are lines under the eyes, that cleave downward in the cheek, and also the labial furrow from the nose to the mouth and so on. These lines belong to the class known as perpendicular lines, and should be lighted so that they can be seen in the finished picture. I feel sure there is not one of my readers but has had an experience where he has made the picture of some old head, and nearly every citizen of his town that has seen the picture pronounced it one of (if not the best) things he ever saw "because it

was so natural" and this too notwithstanding the fact that it had never been retouched. Now if he can trace it down and remember just how his light was arranged at the time of the sitting, I am certain he will find that it was that the light crossed the lines of the face and did not obliterate the character by falling *in them*. So to get the effect of strong character, the subject with the perpendicular lines should be moved up to the light, say within five feet of it, and all of the top light closed off, down to the point where the effect of the side light can be seen. This effect of the side light can be seen in the shadows. Look at the shadow that falls from the nose. If it runs under the nose the top light is too strong. Close it off until this shadow is seen crawling up across the cheek. Let it go up a trifle above the corner of the mouth, and the effect will be all that could be desired.

Thus we see, if we want to strengthen character we must make a strong light, full of contrast. If we want to modify the character we must make a softer light. I submit a small drawing, showing the different positions I use in working for character. The black line at the top, is the part of the light I am using when a very soft lighting is wanted, and the subject is placed accordingly. The black line lower down is the part of the light I use for strong character, and the subject is placed accordingly. I of course use all parts of my light at different times, but for example I submit this drawing simply to give the reader something to guide him. If there are any of the readers of THE PHOTOGRAPHIC TIMES that feel disposed to send me a print showing their work, I will do all I can to suggest wherein it may be bettered from the character readers point of view.





THE SPRING FLOOD

(ROYAL EXHIBIT, LONDON 1905)

By John Chislett

THE "MOST FAVORED" NATION PICTURE.

BY CHARLES LEONARD-STUART.

THE "most favored country," as well known, is a term in political economy, to designate, regardless of relative importance, a friendly nation receiving to the greatest extent, every reciprocal advantage allowable. So, in present instance, in attempting to comply with an editorial request, the "most favored picture" is the choice from several hundred perfect camera productions obtained in various parts of the world, of the one that appeals most to reminiscent faculties—recreative, artistic, literary and poetic—and is not as might be expected, the most accurate print, technically and artistically, of the collection.

"In spite of all temptations
To choose from other nations."

as Gilbert sings (altered for the occasion), it is not the print of a Greek temple, an Italian palace, a Spanish giralda, a German castle on the Rhine, a French château, or an English cathedral, with the foreign glamor and interest of historic associations around them, that claims pride of place, but the picture of a small estuary and river in New Jersey, bathed in the roseate glow of the crimson sunset of an autumnal day.

Glance at a map of New Jersey and find, extending southward from Sandy Hook to Bonds, that lengthy, much summer-homed and seaside-resorted strip of sandy beach, which protects from Atlantic inroads, numerous lagoon-like inlets, the largest and best known of which are the North and South Shrewsbury rivers and Barnegat bay. At Point Pleasant you will locate the small Manasquan inlet and river, the shores of which home an agricultural

and fisher population all the year round, with additions during the summer of sedate, sober, but healthful and sport loving New York and Philadelphia families, to whom the gayer resorts of Long Branch, Asbury Park, Ocean Grove, and Atlantic City to the South, present but few attractions.

The Manasquan inlet is an ideal scenic spot with artistic summer cottages dotting its low and well wooded shores and overlooking its sandy beaches, islets, and placid waters, the last affording abundant recreative facilities for bathing, boating, canoeing, sailing and fishing, while well-kept golf grounds, tennis lawns, smooth surfaced roads and pleasant rides add to the ample attractions of the neighborhood.

Among the most fascinating phenomena of the district are the gorgeous sunsets for which the region around the inlet is famous. No tongue can relate, no pen (or typewriter) describe, no brush or pencil limn the prismatic glories which suffuse earth, sky and water, when the western horizon ascends in its diurnal revolution to nightly eclipse the great flaming orb of day.

Sailing homeward from participation as a follower and sightseer in an afternoon's yacht race (the recreative aspect), a snap shot at $\frac{1}{100}$ th of a second, f22, was taken full in the eye of the monstrous, crimson and lurid globe of the sun, as it hung for a few moments under a long purple cloud bar above the horizon before disappearing beneath the latter, the great aftermath of rose, purple, blue, and dark green, lingering long and lovingly over land and water scape until caressingly subdued and gradually dissolved within an hour, into

the myriad, star-lit splendor of the night.

Careful development produced the illustration (the artistic aspect) accompanying these lines (the literary aspect), while the united impressions evoked the appended verse (the poetic aspect).

SUNSET ON THE MANASQUAN RIVER, MOUNT
PLEASANT, N. J.

A BARCAROLLE.

I.

Row ! Row !
O'er inlet waters gleaming
With sunset glow
And depths that show
The vesper starlight beaming
Flow ! Flow !
Tide with reflecting vision,
And gently float
Our fairy boat
To islet coves elysian.

II.

Sleep ! Sleep !
World in the sunset golden,

As down the creek
We glide and seek
The homestead* quaint and olden.
Sweep ! Sweep !
Wind with thy breath of summer,
And lightly waft
Our elfin craft
Where welcome woos each comer.

III.

Row ! Row !
In twilight darkly glowing,
While voices raise
Melodic lays
With mirth and joy o'erflowing.
Flow ! Flow !
Tide with thy gleams elysian ;
Like this calm sea
May life aye be
A heaven mirrored vision.

In conclusion, an analysis of the whole sketch exhibits the combination of reminiscent faculties—recreative, artistic, literary and poetie,—formulated in the first paragraph as the postulate requisite in the contributor's mind, at least, for *his* "most favored" picture.

* The boyhood home of Richard Harding Davis.



By Charles Leonard-Stuart.

HOW TO MOUNT STEREOSCOPIC PRINTS

BY S. E. DOWDY, M. P. S.

THE realistic appearance of views seen through the stereoscope depends more upon the way in which the prints have been mounted than many observers suspect. However good the original negative may be, it is a very easy matter to completely nullify its excellence, from the stereoscopist's point of view, by inattention to details in trimming and mounting.

The following is a method of procedure which, if adopted, will remove the chief difficulties in the way of getting a properly mounted stereogram. In the first place, the practical worker is well aware of the fact that the prints require transposing on removal from the printing frame, and yet is very prone to forget the correct positions of the cut prints.

To avoid this, directly the complete print is ready for trimming, it should be turned face downwards, in the same way in which one turns over the leaf of a pocket-book, and in the centre of the left-hand side of the reversed print the letter L should be pencilled, and on the right-hand side the letter R.

For many reasons it is advisable to use the P.O.P. or bromide paper on which the stereogram is being made, all in one piece, stereo size $6\frac{3}{4}$ by $3\frac{1}{4}$. Presuming this has been done, and that the print has been marked at the back as suggested, proceed as follows:—

Take a $6\frac{3}{4}$ by $3\frac{1}{4}$ unexposed dry plate, and leave it in hypo solution until cleared; wash and dry it. Now mark it in divisions by drawing any sharp-pointed instrument across the film. For our purpose we shall want a vertical line down the centre of the plate, and a horizontal one, also through the centre,

intersecting it at right angles. Two other vertical lines will be required, each one midway between the end of the plate and the central vertical line. A pair of cheap compasses, in addition to the usual trimming slabs and knife, will complete the outfit, which is used in the following way:

First trim off the top and bottom of the complete print, taking care that foreground objects on both sides are cut through on the same plane, then cut the print into its component halves.

Select your mount, and cover it with your ruled guide glass, and note with a pencil mark where a vertical line drawn through its centre would come. Now lift up the guide glass and slip under it the print for the right-hand side, and push it along until any prominent object in the foreground of the picture is intersected by the outside vertical line on the ruled glass. This, providing the left-hand edge of the print is central, or nearly so on the mount, determines the position of that particular print, such position being pencilled on the mount by means of a dot on its margin in a line with the selected object.

Now slip its fellow print for the left-hand side under the glass, and note the position of the same object with regard to the left-hand vertical line. To give proper stereoscopic effect, it must come *to the right of the line*, and at such a distance that in the mounted stereogram these similar objects will be from $2\frac{1}{2}$ to 3 inches apart. This distance is accurately determined by the compasses, previously opened to the right amount.

The two outer vertical lines of the guide glass are, however, in themselves a very fair guide, being about three

inches, a trifle over; but the compasses are handy where it is not feasible to intersect the centre of an object. Having accurately determined the relative positions of the prints, it only remains to

trim the outer edges to bring them about the same size, and then to mount them quite evenly, both horizontally and vertically, in order to secure a good stereogram with correct displacement.

—*Amateur Photographer.*



PORTRAIT

By Eugene R. Hutchinson.

A NOTE ON MOUNTING PHOTOGRAPHS

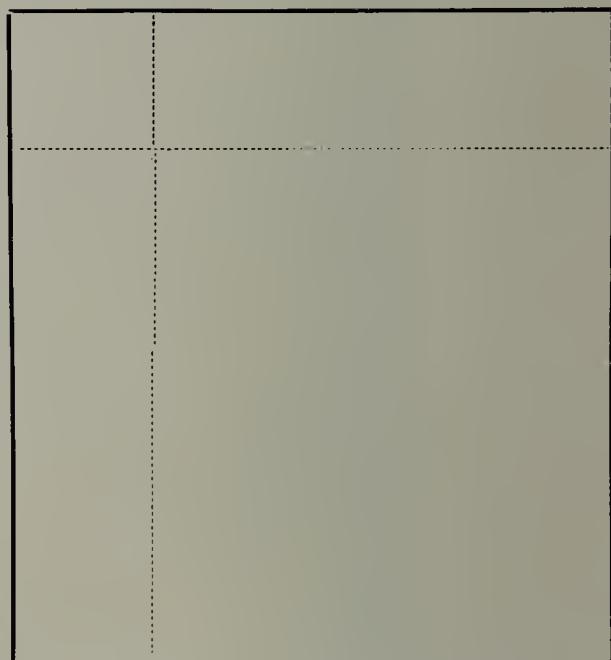
BY S. W. DALHAM

IT is the little things—the attention to minute details which tend to comfortable working, and success in photographic matters, and when we discover an easy means of accomplishing an awkward little bit of manipulation, it is as well to remember the dictum of the famous Captain Cuttle—"When found make a note on."

The particular note which appears last on the tablet of our memory refers to a dodge for mounting photographs so that they shall appear on a definite place upon the mount, and also be perpendicular with its edges. One upon a time we should have written, "The middle of the mount," for it was then the fashion to follow the example of the engraver, and to place the picture in the centre of the space upon which it rested, or, in some cases, perhaps a trifle above the centre. But "other times, other manners"—in the present day, as far as one can judge by examples which have been thought good enough to hang up for public exhibition, there seems a tendency to glorify the mount at the expense of the picture, and instances are not wanting in which a quarter-plate eccentricity is mounted in the corner of a vast expanse of dark cardboard. One is tempted to exclaim with the poet, "Oh, monstrous! But one-half penny worth of bread to this intolerable deal of sack." Only one can understand the temptation of a bibulous person to spend more of his substance on good wine than he does upon the staff of life, while it is difficult to imagine the condition of mind which exhibits a broad area of cardboard as a work of art.

But as these things do happen, we may suppose that there is some reason for them, and our only regret is that in many

cases the cardboard, being the most interesting portion of the exhibit, should be burdened with any photograph at all. Of course, the exhibitors think otherwise, and, as we bear them no malice, we will invite their attention, with that of others, to the little wrinkle in mounting pictures which is the present excuse for taking pen in hand.



Of course, it is a dark mount which we have in view, for no one nowadays uses a light one. It must be dark brown, or dark green, or dark neutral tint, without any distinctive colour. It would be easy enough to get our picture in the centre of it if we could mark it with pencil or chalk, but such marks are prone to permanence, and one hesitates to venture upon them. The temporary guide which we suggest is made with removable pieces of sewing cotton, and the procedure is the simplest thing in the world. Let us cite a case, as the lawyers say.

We have a 10x8 print, or enlargement, and we have elected to mount it on a dark brown card which measures 18x14

inches, and further, we have decided that it shall occupy the centre of the card. We take two pieces of sewing cotton and tie one piece across the mount lengthwise, and the other piece crosswise, and when this is done we must by the help of a foot rule, make them occupy definite positions on the mount. Take the longer one first. As our print is 8 in. broad, and the mount is 14 in., there is clearly 6 in. to spare, which will allow a margin of 3 in. on each side. Our cotton thread must therefore be placed at 3 in. from the edge of the mount, in order to indicate the place where one edge of the picture should rest. We can now adjust the other thread, which is tied across the smaller diameter of the card. Here the

difference between the size of the print and the mount is 8 in., and we must therefore fix our cotton at 4 in. from the edge of the mount. Take care that both threads are strictly parallel with the nearest edge of the card; you can then cover the back of your print with adhesive, and drop it in its place on the mount without the smallest difficulty. Cut away the cottons directly this is done, and smooth the print down in the usual way. It will be seen that any eccentricity in the way of mounting can be carried out by this method, and so we commend it to all workers—same or otherwise. In the annexed diagram the dotted lines indicate the guiding threads.—*Photographic News.*



IN A CORNISH VILLAGE

By Herbert Lambert

A CHAT ON GUM

BY AN ASSOCIATE OF THE SCOTTISH PHOTOGRAPHIC FEDERATION

WHETHER the present large increase in the number of workers in gum-bichromate is due to the fact that this process has been much to the front during the last two years in the way of medal winning, whether it is due to the ready prepared papers or other materials now being put on the market one after the other, or whether it is owing to a desire to produce works of more artistic order, I do not feel called upon to decide.

Whatever the cause, it is satisfactory to know that this beautiful process, so much maligned by ignorant critics, and more especially by those who would be "gummists," but who have not the ability, is now being used by ever-increasing numbers. This being so, it appears appropriate and opportune that now, when it is no longer necessary first of all to defend the process, one who takes some little satisfaction for his share in the movement should state a few points that may be of help to those whose experience is not so great.

First of all, the beginner in gum-bichromate should not be discouraged by failures in his first attempts. Too often, alas! these failures—due entirely to the worker himself—are laid at the door of "gum," and another adverse critic is added to the list. If, when taking up "gum," each day's coating and each trial be numbered (or, better still, if the letters of the alphabet be used), and if a note be kept of any peculiarities, greater progress will be made, and most of the faults will be corrected as the trials proceed. I feel sure that before they get through all the letters of the alphabet

they will have reached a proficiency such as will enable them to make "gum" their servant, and not allow it to be, as in so many cases, their master. It is always wise not to use the gum solution at the first stronger than thirty per cent., and to err on the side of too little rather than too much pigment. Even the best workers in "gum" often go astray because they desire to get great depth of colour, and, on account of this desire, they sometimes use too much pigment, with the result that they get a very steep scale of tones as well as a gritty surface. Too much gum again, or, what is the same, gum too strong, usually gives chalky high lights. The sensitiser cannot be too strong, however, and a saturated solution is usually used.

The exposure must obviously be such as will suit the process of development that the worker prefers or finds himself best able to accomplish.

For an ideal gum print—which is to preserve most of the tones of the negative, besides possessing that subtle something which only gum prints have, and which is usually termed a "running over" of the pigment—just sufficient exposure must be given as will keep the details in the high lights. If less exposure is given, the result is chalky whites and no detail in the shadows. If more, then the half-tones and shadows are clogged up, and the luscious ideal print is not. Gum printing being very similar to water-colour drawing, the swelling of the film and the exudation of the unaffected pigment is the ideal method of development. There are other methods, not so much ideal, but eminently practical all the same for special effects, and these, especially brush development, should be utilized

where necessary and desirable. But it will be found that brush-developed prints never have the luscious appearance that is the charm of the perfect gum print.

Always use some sort of actinometer when printing, because not only do you then know exactly when exposure has been correct, but if, by accident, over-exposure should occur, you will be forewarned, and therefore forearmed, when you come to develop.

During the experimental—or shall we call it apprenticeship?—stage, it is a good plan to use up any spoiled prints by trying to modify the tonal values with the brush, by vignetting large heads, putting in clouds, or causing the distance to appear really distant, and not merely, as usually happens in the ordinary negative, simply smaller. It is in these valuable methods of control that gum scores over all other processes, and as they cannot be used successfully, unless after considerable practice, it is essential that, along with perfection of coating and de-

velopment, after-work on the print should have a great deal of attention. Indeed, unless the worker feels he can help his print after development, or during the same, he need not go to the trouble of becoming an adept at the preliminary stages. At the same time, once a worker really begins to get good results in gum, the process has such a fascination for him that he seldom altogether deserts it. And when he realizes the extent of "help" he can give his negative by working on the print, his art-education has fairly begun, and in a short time he has placed a tremendous gulf between his old work and his new.

Possibly "the man in the street" will not appreciate your work. Never mind. No one takes his opinions of or beliefs in art from the general public. Indeed, the applause of the public, so much wooed by some photographers, should rather be avoided, for there lies the downward path to the realms of the "cheap and nasty."—*Photography*.



By W. W. Cowles.

THE MANUFACTURE OF DRY PLATES

BY S. H. WRATTEN

(*A paper read before the Croydon Camera Club.*)

IT is now fifty-four years since the first gelatine dry plate was made by Poitevin, who must be considered as the originator of the use of gelatine as a vehicle for the silver salts. Crude as his process naturally would be, it marked the beginning of a new era in photography, destined to revolutionize all the then existing methods and aspirations, and eventually to build up new trades and completely change the policy of other trades which originally had no connection with photography. Twenty-one years later Dr. Maddox brought forward a gelatine emulsion process, which immediately put dry-plate making on a practical working basis, inasmuch as he disassociated his method from the existing wet-plate practice, which had cramped the utility of Poitevin's invention, and boldly emulsified the sensitive salts in the gelatine with which he coated his plates.

Two years later the first commercially made gelatine dry plates were placed on the market by Burgess. So much for the historical side of my subject I have touched on it very briefly, as history is generally considered a dry subject; but I feel certain that could I ably tell you of the strivings and struggles of the pioneers, and the manner in which they literally fought their way to a knowledge of the laws of Nature affecting their particular calling, you would feel with me that the early history of dry-plate manufacture is full of romance and interest.

At the present time the dreams of the earlier experimentalists have been more than realized, and gelatine dry plate a hundred thousand times more sensitive

than the earliest make are now in general commercial use, and it is about the manufacture of the present-day dry plate that I now wish to speak, and, with your permission I will take the different stages of manufacture as they appeal to me.

The factory devoted to dry-plate manufacture consists practically of five departments—the glass cleaning, the emulsion, the coating, the drying, and the packing departments—in all of which the strictest cleanliness and freedom from dust is demanded. Until comparatively recently all glass used for dry plates was of English manufacture. For a long time after the quality of Belgian glass had reached the standard required; incorrectness of the cutting prohibited its use. The rectification of this very small but important matter was due primarily to an English manufacturer, who, feeling that he could get a superior glass, if once the correctness of cutting could be assured, went to Belgium and personally instructed the glass-maker how to overcome this trouble, and in the special requirements of dry-plate makers. To-day the glass of from twenty-five to thirty plates to the inch comes from France; the greatest portion of imported glass, that running from twelve to twenty-five to the inch, comes from Belgium; and it is only in glass of a heavier nature that the home market maintains its supremacy.

Of the agents used for cleaning the glass, which is now nearly entirely done by machinery, sod. carb. stands pre-eminent. The character of the matter to be removed sometimes varies, and to meet these variations, caustic soda, iodine

and alcohol, whiting, tripoli, and alum are used, and if the substance is still obstinate, soaking for twenty-four hours in a weak muriatic acid is resorted to. After being thoroughly cleansed the plate is dipped or flooded with a substratum bath, which is generally a mixture of chrome alum and gelatine, very weak, but sufficient when dry to give a better adhesive surface for the emulsion coating. The cleansed plates, having been thoroughly dried, are next taken to the coating room, wherein and henceforth all operations must be conducted in a properly screened light. The emulsion with which the plates will be now coated is a mixture of gelatine, iodide, and bromide of potass, silver nitrate, and ammonia. These components are all mixed together, care being taken that the brom. pot. is always in excess to prevent fog, and are digested for some hours at a temperature varying from 160 deg. to 190 deg. F., according to the season of the year and the kind of emulsion. When the digestion is finished—i. e., when by transmitted light it exhibits the correct color which ranges from red to green, fresh gelatine is added and dissolved after which the whole is frozen ready for the shredding which precedes the washing-out of the soluble salts formed during emulsifying.

The discovery of the necessity and advantages of this removal of the potassium nitrate salts was due to the researches of King in 1873. The emulsion, after washing, is again digested, and gains greatly increased sensitiveness thereby, and after an addition of spirit is ready for the coating machine. This machine consists chiefly of a train of bands which carry the glass plate under the coating weir, clean the backs, set the emulsion, and finally deliver the coated plates ready for stacking in the drying room, from whence, after a stay of about seven hours in a constant current of

warm filtered air, they are removed to the packing department. The regulation of the amount to be delivered upon the surface of each plate is effected by pumps, variations being obtained by altering either their number or their length of stroke; by scrapers, which scrape adhering emulsion from a glass roller revolving in a trough of emulsion, the regulation being effected by the width of the scraper; or by the simplest of all methods, the adaptation of the Marriott's bottle. There is still much room for improvement in the feeding and delivering apparatus at present employed, but this is only true if regarded from the economic side of the manufactory. Judging from the finished product no further improvement is necessary; the evenness of the coating exceeding the evenness of the surface of the glass. Before proceeding to the packing department the question of dark-room illumination may well claim our attention. With plates sufficiently sensitive to give well-exposed negatives with the exposure of one-thousandth part of a second in daylight, and with panchromatic plates sensitive to all but the deepest red, the coating, examining, and packing must be conducted practically in darkness. The method adopted to obtain the maximum luminosity with the minimum risk is known as the "slit" method; this is simply an aperture about $1\frac{1}{2}$ inch by 6 inches so arranged with walls as to stand away from the lamp screen about 2 inches. It may be imagined as a reversal of a focal-plane shutter, inasmuch as instead of the slit moving over the surface of the plate, the latter moves over the slit, and the brief exposure for examination does no harm.

The packing of plates is not interesting, being, after examination, simply a matter of careful handling and method; but the cutting machinery which reduces the size of the coated plates to quarters,

halves, etc., is well worthy of attention as a triumph of ingenuity and finish. This machine, which is driven by a small motor, can be readily adjusted by the simple insertion of pegs to divide any required size, cuts easily thirty dozen whole plates to quarters per hour, entering each plate one thirty-second of an inch in, and leaving with the same margin, thus avoiding all chipping and consequent dust. The testing of the coated plate is conducted preliminary to packing. The tests are always made by the chief, the manager, or an assistant especially trained for the task. The faults looked for may be divided into three classes: Those due to the emulsion, the more prevalent coating defect, and those resulting from faulty drying. Those due to causes directly connected with the emulsion are most to be feared, inasmuch as they generally result in a day's work to be washed off.

Tests as to sensitiveness, density-giving power, and gradation are made with standards of light and exposure which vary together with their method of application in each works. Naturally, absolute correctness is totally out of the question; but, as in ordinary photography, such correctness is not needed, nobody is any the worse for the deficiency.

Some day in the far future, when if only optically plane glass is coated, it may be requisite to know the exact speed of a plate and its table of determined densities; but, until then, I feel sure that the clever researches which have recently been made in dry-plate sensitometry by our members, Messrs. Mees and Sheppard, will be chiefly useful in the laboratories of dry-plate factories, where I feel sure their works, together with the epoch-making discoveries of Messrs Hurter and Driffield, will eventually be reckoned as assets of national value to us as

the leading dry-plate manufacturing country of the world. In addition to the ordinary tests, orthochromatic plates are subjected to further tests for color sensitiveness; these are mostly conducted by exposure through colored mediums, by the spectroscope, and by camera trials on charts of colors. If the resulting prints are to be used for advertisement purposes, over-correction appears to be generally regarded as a necessary feature that the result may have a distinctive appearance.

Before closing my remarks I would like to mention a few interesting facts. Dry-plate, as well as wet-plate, photography, may be said to be primarily the result of French ideas, solidified and brought into working form by the slower-moving English brain. The home product of dry plates is far and away superior to the Continental makes, and this to me has always been an enigma. Practically every article used in the manufacture of dry plates is imported from Germany, yet in that country of profound thought and research there is not a plate factory of any magnitude. True, there are many small works; but, travel over the world as you will, or even go no further than the Continent of Europe, and you find English-made plates are preferred and used. This fact is keenly recognized by American makers and taken advantage of, as indicated by their purchase of English factories.

The question of prices and their possible reduction is bound to arise in the near future as the possibilities of over-production already loom in the distance. A great reduction must not be looked for, as the manufacture of dry plates has yet to free itself from many uncertainties, which, combined with the increasing cost of raw materials, diminish the possibility of a lessened price-list.

Nor do I think any new departure in dry-plate manufacture is likely to occur. Like the bicycle, the dry plate is rapidly approaching a regular style, the prevailing indication being chiefly indica-

tive of an extended use of the fastest ordinary and color sensitive plates, and a neglect of slower plates even for purposes where their design makes them most efficient.—*British Journal of Photography*.



A PAIR OF SPECTACLES

By Mrs. G. A. Barton

THE SHAPES OF PLATES AND PRINTS

BY CHAPMAN JONES

EVERY now and then attempts are made, or it is proposed that they should be made, to reform the sizes of photographic plates. At least two notables societies, as well as various individuals, have busied themselves with this subject, and as it is a circumstance that directly affects the choice of apparatus and often the method of using it, it is a matter of everyday practical importance.

As lenses are round and their curves spherical they give a circular field or picture. A circular plate the same size as the field of the lens would receive the whole area of picture that the lens could give, and the photographer could then select from the round negative the part that he wanted. The only movement of the lens would then be to and fro for focussing. Any departure from this arrangement is a compromise; the arrangement is made less perfect from a theoretical point of view for the sake of practical convenience. Obviously apparatus to accommodate circular plates is almost impossible. The simplest change is to a square plate, and this at once brings us into the range of practical work, for $3\frac{1}{4}$ in. square is a not uncommon size in the making of negatives for lantern slides. But this size is very rarely as large a square as the lens used would cover, and so it becomes necessary, before exposure, to select that part of the image produced by the lens that shall be received by the plate. This would be most correctly done by moving the plate in the field of the lens, but mechanically it is more convenient to move the lens, and with it, of course, the image, though this is not the exact equivalent of moving

the plate because in changing the position of the lens the point of view is altered. This shifting of the point of view is negligible when the object photographed is distant. Thus the change from a full-sized round plate to a square plate imposes limitations, and if the square is smaller than the largest that could be inscribed in the circle, there are further limitations and the need for power to shift the lens (as it is convenient to shift the plate) which is practically met by a rising, falling, and perhaps sliding front.

Of course the prints made from square negatives are not often square, the superfluous subject is trimmed off. This seems like waste, especially in the larger sizes, and so the next step is to make the plate oblong. This imposes further limitations, and introduces the necessity for a reversing back, for here there is no alternative to moving the plate, because no shifting of the lens will turn the desired rectangular part of the image given from a perpendicular to a horizontal image.

It is this attempt at economy in making the plate oblong that introduces the difficulty referred to above as to the proportion between length and breadth, and this has generally been discussed as if the shape of the plate governed the shape of the print. Now it will be noticed that all commercial plates tend to squareness, they are too square for what is sometimes called artistic proportions. Yet the attempt to introduce a better proportion, namely, $7\frac{1}{2}$ by 5, failed, although it had the practical support of the plate maker and the camera maker, and was praised without stint by many well known workers. I have never seen a

satisfactory suggestion as to the reason for this adherence to shapes which everyone admits are generally too square, and the refusal to patronize, except to the most meagre extent, a better proportioned shape. I believe it to be simply a case of the survival of the fittest. The square plate gives every possibility as to shape, but directly one dimension is reduced, the range of available shapes becomes curtailed. A narrow print can be made from a wide plate, but a narrow plate sets a maximum width to the print. This, I believe, accounts for, and justifies, the reluctance that photographers have always shown to reduce the one dimension of the plate more than two inches in ten or twelve, or three in fifteen. Such a small amount can be spared, and is a saving worth saving, but to narrow the plate still further would sometimes hamper the worker with unwelcome restrictions. In short, we find practically that he will give up so much for economy's sake, but not more. I submit, therefore, that in any future attempt to get uniformity in the size of plates made in England and America on the one hand, and the Continental nations on the other, "artistic proportions" should be left out of consideration, and the small deviation from squareness which we are accustomed to should be regarded as the

permissible maximum of concession in that direction.

The relative advantages of a square and an oblong plate are not always appreciated. If negatives are taken only for making lantern slides from, a $3\frac{1}{4}$ in. square plate is the maximum size, and being square has all the advantages already indicated. But if the slides are always to be masked into oblong pictures, the width of the plate may just as well be reduced, and this would result in a considerable reduction in the size of the camera, for no one would wish for a square camera with reversing back in so small a size. But the practical difficulty of getting plates smaller than quarter-plate is a very real objection. I got over this some years ago by using half quarter-plates, cutting the quarter-plates on a small cutting board provided with a gauge, with a revolving steel-wheel glass cutter, which cost only a few pence. The slides made by contact from these small negatives are not distinguishable from slides made on larger plates. The only limitation is that there is a certain width beyond which it is impossible to go, and the gain to set off against this is that the camera to be carried is about half the ordinary size and little more than half the ordinary weight.

—*Amateur Photographer.*



WRECK OF THE DAWSON CITY

By John R. Smith.

EYE PHOTOGRAPHY

BY W. PERRY BARRINGER

WHAT sage said "The eye is index to the mind?" Whoever it was first made the observation, its truth must be apparent to every student of human nature. A man may hide his mouth with a moustache, a woman disguise hers with a smile, but seek the eye and there the true feeling is written beyond all doubt.

Now, photographers are supposed to be observant persons, and yet they have, with few exceptions, entirely overlooked one of the widest fields for the expression of individuality. I refer to the photography of the eye, not in conjunction with the rest of the features, but as the sole motive of the picture.

I am aware that miniature painters have been specialising for some time in the presentation of their sitter's eye alone, but this cannot be looked upon otherwise than as a society "fad," in which the main object of the artist is to beautify and flatter out of all individuality the languid orbs of his lady patrons. The photographer must do the work with quite a different intent; retouching in any shape or form must be rigidly tabooed, and his sole aim must be to produce a picture of his sitter's eye, which will be recognizable, either by its expression or formation, from any other.

Many of the readers will at once object that without the aid of colour rendering, distinction is impossible between the majority of person's eyes. Therein I beg to disagree; some eyes at least differ materially, both in expression, size and formation; as to colouring, I will at once admit this is a valuable means of

recognition, and will return to it later. As the size of the eye is a very important point in differentiation, some means must be devised to ensure that the whole of your collection of optics are on the same scale. The best method of doing this is to take your first picture as near life-size as possible, and before your sitter moves, to measure by means of a rule, the distance from the eyebrow to lens, and also the point to which you have extended your bellows. By always posing other subjects the same distance away, and racking out to the marked point on your camera the scale will always remain the same in future pictures and the same degree of definition is also assured.

Your primary object throughout the work is to obtain a uniformity of conditions. It will be seen at once that a picture of one person's eye taken by daylight and another taken by magnesium flash would destroy at once all test by comparison. The same arrangement of lighting and as near as possible the same intensity of illumination must be maintained for each exposure and the duration of the latter should be measured by meter or other mechanical means, exactitude herein being important.

As to the method of working, I will give a few hints from my own experience, but a good deal must necessarily be left to the judgment of the operator. The sitter should be posed facing the camera, and looking directly into the lens, the light falling from behind the instrument. Too strong a light should be avoided, a medium even illumination being best. Place the sitter for indoor work about six or eight feet from the

window, and beware of reflecting or very light surfaces around, as the retina of the eye, it must be remembered, is itself a reflector. Do not let your subject "glare"—a characteristic expression is your ideal, and to obtain this the exposure must be short but ample for full detail. Obtain as great definition as your lens will give, the "fuzzytype" is out of place in "eye" photography. Develop with a fairly diluted solution, to obtain softness, and print on a fine matt paper, the glaze of P.O.P. preventing one from taking in the whole picture at a glance, which is the only way to look at these studies.

Now as to colouring. There is no doubt that the artist photographer with some knowledge of tinting can increase his likeness by truthful colouring; but unless you have some aptitude for this sort of work, I should advise you to be

content with the photograph pure and simple. The crystoleum process offers fine scope for this branch of work, and can be recommended for more ambitious enthusiasts. When tinting with water colours, use a diluted solution of oxgall instead of water the acid ensuring that the colour will take to the surface of the print.

Above all the eye photographer must obtain uniformity in posing, size, lighting, development, and printing; that is the key to success.

As an always interesting and original record, this phase of recreative photography offers many inducements, and as an example of its interest to friends, an amateur of my acquaintance has an album of "eyes," and under each picture the subject has written something appropriate over his signature.—*Focus.*



BURSTING SEED POD OF MILKWEED. By W. H. Walmsley.

THE SIGNIFICANCE OF THE PHOTOMECHANICAL PROCESSES

BY FRANK WEITENKAMPF

REPRODUCTIVE processes based on the initial use of the camera have come to play a part of overwhelming importance in the illustration of books and magazines. These processes are widely varying, differing in method, degrees of excellence, and in expensiveness. And these variations are found not only between the various processes, but also within the individual ones. There is an exceedingly great difference, for example, between the best and the cheapest half-tones. So that one cannot group all these "photomechanical" processes in one class, with no reference to good and bad.

We have become used to the complaint that the camera has driven out the artistic element in the reproductive arts. Especially is this urged when the decay of wood-engraving is deplored. Yet the wood-engravers first hailed the camera as an ally in the effort to attain realism even to the extent of reproducing the brush-marks rather than the spirit of a painting. The wood-engraving replaced the line engraving on steel and was in its turn replaced by the process based on the photograph, in the progressive pursuit of quicker and cheaper reproductive methods. If the loss of artistic effect in the course of the latter change is deplored, the fact must not be overlooked that the artistic individuality of the wood-engraver was surely not in every case one worth preserving, and that his production was systematized, in co-operative shop methods, as a business as well as an art.

Perhaps the principal claims of the

new processes are cheapness and truth. But the easy view that the camera does not lie admits of the modification that it tells half-truths. This is certainly so when the statement of the camera is translated into that of the reproductive processes, for these processes are not only based on the use of a mechanically produced grain to hold the ink, but the hand of man intervenes directly in the half-tone, in photogravure, in the three-colour process. The most satisfactory reproduction of a painting is the photograph, and that does not come within the province of these notes. The next best is the collographic print (*Lichtdruck*, heliotype), in which there is practically no grain. But this is generally used only for small and comparatively expensive editions. The photogravure, being engraved in intaglio, must likewise be printed separately from the text. The half-tone and the line etching remain as the only practicable processes in which pictures and text can be printed simultaneously, and of these, the half-tone is most in evidence, perhaps, in our books and magazines. In the latter, the checkerboard effect of even the finest screen has led to experiments, notably a recent German one, to attain more pleasing results by using a screen with irregular lines. However, the high lights in the best work to-day are scraped out by hand, and the abruptness of the vignetted outline can be softened by the same agency. Halftones in our best magazines are often considerably touched up by hand. So we have again, at least to some extent, the personal impression or interpretation of

the wielder of the burin, who, moreover, is apt to be one of the very wood engravers whom the new processes had put out of business.

Perhaps one of the most significant and essential purposes of these new processes is the cheap production of pictorial documents. We may be thrilled, perhaps, by a dramatically conceived picture of a battle, but a half-tone after a good photograph of some individual scene in the battle itself strikes us with an intensity of human interest which (if, indeed, the picture is not "faked") has the merit of at least showing life as it is and falling in with realistic tendencies.

It is well to remember the limitations of this process, limitations which are many and are in many instances glossed over by meretricious tricks and miserable subterfuges. Witness such an abomination as a black and white beach with green waves or so-called colour-prints economically produced by the use of a few liberally applied tints or even simply a judiciously employed red.

It is well to remember that there cannot yet be either a perfect reproduction of a colour photography. For what is often called colour photography is simply a reproduction, by the half-tone process, of three or more photographs taken through prepared sheets, each one of which eliminates all but a certain colour, the resultant plates being printed in inks of corresponding colours. This implies not simply a mechanical reproduction of a photograph but the production of plates which are usually considerably touched up by hand, the selection of coloured inks for which is not, of course, determined automatically by any chemical process, but is the result of a choice on the part of the printer among a certain series of inks.

It is much better to understand these limitations clearly, and not claim for, nor expect from, these processes more than they can render. For even then their resources are sufficient to make us thankful indeed for what is given us, while nursing our optimism in the hope for improvement.—*The Script.*



A CRAFTSMAN.

By Charles Vandervelde.

By William T. Knox

(SECOND AMERICAN SALON)

PLEASURES UNDER SUMMER SKIES



EDITORIAL NOTES

The trouble with most amateur photographers is that they attempt too much, try to make every sort of picture, landscape, still life, portraiture, flower studies and even microscopic work, and all this often before they have mastered the rudiments of technique. With very few exceptions most of the photographers who have won recognition, have done so with one line of work, some in pure landscape, some in portraiture, etc., and confine their efforts to one line of work always striving to produce the best effect possible. It is true that all the workers do make all sorts of pictures, but look over their portfolios, and you will find one class of work most in evidence, and it is this class of work that has won them recognition. The pictures outside this particular class have been made more in the way of experiment, or as a temporary relaxation from their principal work.

This is the age of the specialist, not only in photography, but in things commercial as well. In medicine and the law, it is not the general practitioner who wins renown, but the specialist, the man who can accomplish some special result better than any one else. This does not imply that you should only make landscapes, and leave portraiture alone, but rather that you select the branch of the art that interests you most, and perfect yourself in that before attempting some other branch. As you attain greater skill in any one branch, the greater your interest and enthusiasm will be, and in perfecting yourself in this one branch, you are educating yourself to accomplish good results in other branches. You

will find sufficient to interest and keep you busy for a life time in any one branch, and if you keep at it religiously, and live to a good ripe age, you will find that there will still be many things unlearned. Some persons have a natural faculty for selection, and almost unconsciously select the best view point for a landscape study, and though practically ignorant of the laws of composition, are able to produce pictures through the aid of this sixth sense. Again there are others possessing the faculty of putting people at their ease, and able to suggest satisfactory poses and expression without the knowledge of their sitters. The possession of such faculties is a great vantage, and often selects the particular line of work to follow and accounts largely for the success of one person over another. The field for photography is so great that there is room for us all, but if you want to succeed, become a specialist, at least till you are recognized as such, then if you like, go in for the other things.



With most of us photography is purely a recreation, and consequently the funds at our disposal for this purpose are usually in an inverse ratio to the demands. This of course spells economy. The question is, what is economy? The beginner naturally argues that purchasing the cheapest plates, paper and chemicals, to say nothing of the camera, is economy. It never was and never will be economy to use inferior products. In photography, more perhaps than in any other

form of recreation, the best is none too good, one little false economy in the purchase of one single article necessary will often spoil the entire result. Purchase the very best of everything. You may not have so much material to experiment with, but your percentage of good results will be much higher and you will develop into a really good photographer instead of an unsuccessful putterer. If you must economize this will be much more to the point. Don't use platinum for proofs when solo would answer just as well. Don't mix up a whole lot of developer just to make one print. Don't leave your box of printing paper open on a table or down in a drawer. Don't leave your lenses around unpro-

tected to be used as paper weights or carelessly dropped on the floor by some one uninitiated. The whole thing summed up is get the best you can, take care of what you get, and don't waste your ammunition in almost impossible shots.

Who cares for preachers any way. The giving of advice is usually a thankless task even when the advisee pays you for it, so we don't suppose you will pay much attention to the foregoing, just putter along in the same old way. Some few of you will, however let just a little of it soak in. The man who can and will absorb a little preaching now and then is the man that gets there. Think it over.



PLAYMATES

(SECOND AMERICAN SALON)

By William T. Knox

MONTHLY FOREIGN DIGEST

TRANSLATED BY HENRY F. RAESS

A Simple Printing Process

This process has been in use for some years in the engineering department of the Hessian railway, giving perfect satisfaction.

English.	Metric.
117 ozs..... Water	3500 c. c.
8½ ozs. Potassium dichromate	250.0
½ oz... Sulphuric acid conc.	10 c. c.
½ oz..... Alcohol	10 c. c.
1 oz.. Phosphoric acid30.0

The potassium dichromate is first dissolved in the water, then the sulphuric acid added with constant stirring, then the alcohol and phosphoric acid. Paper is covered with the above solution, using either a sponge or soft wide brush, this must be done in non-actinic light, as also the drying. The printing (presumably tracings) takes from 35 seconds to 5 minutes according to the light. After printing, the paper is hung for 20 minutes in a box or case on the bottom of which is placed several sheets of blotting paper upon which is poured 40 drops of benzole* and 20 drops of *common impure* aniline oil. The vapors of this mixture bring forth the image on the paper. The prints are then washed for a few minutes and hung up to dry.—*Die Photographische Industrie*, No. 40, Oct. '05.

The original article calls for "benzin" without stating whether petroleum or coal tar is meant, but the latter is assumed to be right—Translator.

Pyro for Tank Development

Pyro is not used very much for this purpose by professional photographers, although it was the first developer to be used in tank development. The author claims, from long experience, that pyro is better adapted than any other developer for tank work. Permitting great

dilution, and yielding soft negatives, which is especially valuable in cases of under exposure. The only disadvantage is that pyro oxidizes the quickest. The following stock solution should be prepared:

English.	SOLUTION A.	Metric.
7 ozs..... Warm water200	c. c.
90 grs. Potassium metabisulphite	6.0	
½ oz..... Sodium sulphite, dry	20.0	
135 grains..... Pyro.....	9.0	

SOLUTION B.
16 ozs.... Warm water
3 ozs. Sodium carbonate cryst.
135 grains Sodium sulphite, dry

If, instead of the sodium carbonate, we take 45.0 (1½ ozs.) of potassium carbonate, we obtain greater density and a deeper yellow stain. For use take:

140 ozs. Water 12° C. (54° F.)	4200	c. c.
½ oz. Solution A.	20	c. c.
½-1½ ozs. Solution B.	10.40	c. c.

If great errors of exposure are feared, add only 10 c.c. (1-3 oz.) of B. Should the image not appear at end of one hour, 10 c.c. (1-3 oz.) of B should be added, if at the expiration of another hour no image is visible, add from 20-40 c.c. (2-3 1-3 oz.) of B. The addition of too much B should be avoided unless the developer is cooled to 10-6 deg. C. (43-50 deg. F.) as otherwise the plates may be covered with a gray fog. With a normal quantity of alkali the temperature should be kept below 15 deg. C. (60 deg. F.). With overexposure, the development will take 5 to 6 hours; with proper exposure, about 8 hours; if under exposed, 12 hours or more. Many photographers like the yellow pyro stain, but for those who object to it, if a few drops of a 10 per cent. alum solution is added to the developer, the stain will be greatly reduced.

If we do not wish to wait 6 to 12 hours for the development, the time can be shortened by making the developer stronger, adding 2 to 3 times as much of the stock solution. By this means we can shorten the time to half an hour, the only difference in the resulting image will be that it has more contrast. During long development it is advisable to reverse the plates occasionally, top to bottom, to avoid uneven development. The tank must be kept well covered. No bromide should be used. Plates which fog easily are not suitable for a very dilute developer.—By J. J. Honegger.—*Bulletin Photoglob.* Vol. 10 No. 8, Aug. '05.

Sepia Toning Bath for P. O. P. Paper

Two solutions are to be made.

English.	Metric.
	A.
50 ozs Water.....	1500 c. c.
1 oz..Ammonium thiocyanate..	30.0
15 drops " carbonate 10% 15 drops	
1 oz Alum	30.0
	B
60 ozs Water ..	1800 c. c.
15 grains....Gold chloride	1.0

For use take 100 c.c. (3 1-3 ozs.) of A and 75 c.c. (2½ ozs.) of B. This mixture has a red color, which disappears in about one hour, the bath is then ready to use.

—*Photographische Industrie*, No. 39, Sept., '05.

Silver Phosphate Emulsion for P. O. P. Papers

Prof. Valenta has continued his tests with silver phosphate to take the place of the usual silver chloride emulsion used for printing out papers. He found that by adding ammonia—silver nitrate to the silver phosphate collodion emulsion he succeeded in obtaining an emulsion which when coated on paper proved to be very sensitive and of good keeping qualities. These papers lent themselves very well for either printing out or for

slight printing and subsequent development, in the latter case they yield with acid developers, strong images of a brownish black color with pure whites. The pictures can also be toned in the various gold and platinum baths giving good results. The necessary chemicals for an emulsion of this kind are as follows:

English.	Metric.
50 ozs... Collodion 3-3½%..	1500 c. c.
½ oz...Phosphoric acid 20%...20 c. c.	
2 ozs.....Citric acid.....	60.0
2-2½ ozs . Silver nitrate.....	60-80.0
Q. s..Ammonium hydroxide....Q. s.	
8½ ozs.. Ether.....250 c. c.	
½ oz..Glycerine-alcohol 1-1..20 c. c.	
3½ ozs.....Alcohol.....100 c. c.	
8½ ozs..Absolute alcohol...250 c. c.	

To the collodion is added the phosphoric acid. The citric acid to be dissolved in 100 c.c. (3 1-3 ozs.) alcohol and then added. To the silver nitrate is added ammonium hydroxide until a clear solution results. This solution is to be slightly warmed and to it is added, in small quantities at a time with constant shaking, 250 c.c. (8 1-3 ozs.) of absolute alcohol this is then added to the above. Then add 250 c.c. (8 1-3 ozs.) of ether and filter through cotton wool, after which 20 c.c. (2-3 oz.) of glycerine-alcohol 1-1 is added. To shorten the time of printing, the paper is exposed under a negative until a faint outline is noticed, it is then developed with:

7 drachms... . . .	Water.....25 c. c.
15 grains.....Metol	1.0
7 drachms....Acetic acid...25 c. c.	
	OR
1 oz..... . . .	Water30 c. c.
15 grains.....Metol.....1.0	
½ oz.....Citric acid.... . . .20.0	

For use 10 drops of either of the above developers is added to 30 c.c. (1 oz.) of water. The development is rapid, and the prints can be toned in a dilute platinum toning bath acidified with phosphoric acid. This gives fine brown to black tones. By E. Valenta. *Photographische Korrespondenz*, July. '05.

Photographische Industrie No. 33, Aug. '05.

Highly Sensitive Plates With a Fine Grain

It is well known that, with increased sensitiveness of gelatine dry plates, the size of the grain of the developed image also increases. This is of little importance unless the image is to be considerably enlarged. Prof. N. O. Witt found that if during the ripening of the emulsion, some pyridine, a coal tar derivative, is added instead of the usual ammonium hydroxide, that a similar highly sensitive emulsion is produced, but without the usual coarse grain. These plates are eminently suitable for Lippmann color photography, as heretofore only slow plates could be used on account of their fine grain.

—*Photographisches Central Blatt*, Vol. 10 No. 23.

For or Against Combined Toning Baths

Pleasant as the printing of P. O. P. is, as everything can be done in daylight, from the printing to the finishing, still it has its shortcoming on account of the questionable permanency of the prints in combined baths. Although it has been proven that the production of spots and fading of matte collodion papers is often the manufacturers fault, even the best professional photographers are not free from this trouble. The greater part of

this evil can be traced to wrong or faulty manipulations after printing. A great deal has been written in regards to combined toning baths, some in favor and others against it. The claim that all prints toned in baths of this kind spoil sooner than those toned in separate baths is not valid. Careful investigations of a purely chemical nature into the various reaction produced by the presence of lead salts, sodium acetate and thiocyanates, have but little interest for the amateur, but they have paved the way for a more systematic and appropriate recipe. Speaking in general of toning baths, the following is recommended by Prof. Eder, as it permits a more ideal exhaustion of the gold.

English.	SOLUTION A.	Metric.
27 ozs	Water ...	800 c. c.
½ oz Ammonium thiocyanate	15.0	
15 grains Ammonium carbonate	1.0	
½ oz.....Alum	15.0	
SOLUTION B.		
20 ozs ...	Water	600 c.c.
15 grains.....Gold chloride....		1.0

For use mix 100 c.c. (3 1-3 ozs.) of A with 50 c.c. (1 2-3 oz.) of B. Fix in 10 per cent "hypo." Time of toning is about 8 minutes. Of course there are many other recipes that could be used but they differ very little from one another. Whatever formula which may be used, if no alum is present, some other toning agent must be substituted, such as chrome alum, formaline, etc. By Fritz Schroeder.—*Apollo* No. 244, Aug., '05.



COLOUR PHOTOGRAPHY

The Technics and Practice of the Lumiere starch Grain Process. Principle of the Process

IF on the surface of a sheet of glass, and in the form of a thin single film, a collection of microscopic elements, transparent and coloured reddish orange, green, and violet are spread, we shall find if the spectral absorption of these elements are correct, and if they are incorrect proportions, that the film thus obtained, when examined by transmitted light, will not appear coloured; this film will only absorb a fraction of the transmitted light.

The luminous rays traversing the fundamental screens, orange, green, and violet, are reconstructed and form white light if the sum of their surfaces for each colour, and the intensity of the colouration of the constituent elements exists in proportions which are well known. The thin trichromatic film thus formed is subsequently coated with a panchromatic emulsion.

If now such a plate be submitted to the action of a coloured image, taking the precaution to expose it through the back, the light rays traversing the fundamental screens, will, according to their colour and the colour of the screens they encounter, suffer a variable absorption. We thus realize a selection by the microscopic elements which enables us, after development and fixation, to obtain coloured images, the colours being complementary to those of the original.

How the Complimentary (Negative) Image is Formed.

If we take, for example, a part of the image coloured red, the red rays will be absorbed by the green elements of the film, whilst the violet and orange elements will transmit them. The panchromatic film, therefore, will be acted

upon under the orange and violet elements, and the green elements will appear after fixation because the panchromatic film has not been acted on under the green elements.

Development will reduce the silver bromide of the film and mask the orange and violet elements, and the green elements will appear because the silver bromide has not been reduced under them. We have then in this case a residue coloured green, which is complementary to the red rays we have been considering. The same phenomena will occur with the other colours; that is to say, with green light the green elements will be masked, and the film appear red. In the case of yellow, the violet image will appear, and so on.

It will be seen that a negative in these complementary colours ought to give, with a plate prepared in the same way, positives which would be complementary to the negatives, that is to say, positives which would reproduce the colours of the original.

One might also, after development of the negative image, omit the fixation, and reverse the image by one of the well-known methods so as to obtain a positive direct which would present all the colours of the original object.

The difficulties which we have encountered in the application of this method are numerous and considerable, but after laborious researches we have surmounted them, and the Lumiere Company are preparing to supply such plates.

It will be sufficient to briefly indicate some of the most important conditions which had to be fulfilled to prove how delicate the problem was.

Technical problems of the process.

We had first to find a film formed of

microscopic filters, orange, green and violet. It was necessary that this film should adhere to its support, be very thin, and that the colouration of the elements of which it should be composed should be rigidly determined as regards intensity and exactness of colour, and as regards the number of elements to a given area. The colours must be stable, they must not run, and there must be no superposition of the coloured filters, and no interspaces. Finally, the film has to be covered with a varnish having the same index of refraction as the grains.

It was essential that the sensitive film should be orthochromatised—so that there should be no false rendering of colours—and that this orthochromatism should be in relation to the nature of the emulsion and the colour of the elementary filters. The film of emulsion should be of a special nature to prevent diffusion, and the manipulations, development and exposure should be appropriate to these preparations.

The simple enumeration of one of the conditions will serve to show how much care and method was necessary. First, potato starch had to be separated by instruments specially devised for the work, for the grains have a diameter of from 15 to 20 thousandth of millimetre. These grains were divided into three lots, which were respectively stained reddish orange, green and violet, by the aid of special colouring matters.

The coloured powders thus obtained were mixed, after complete desiccation, in such proportions that the mixture did not show any residual colour. The resultant powder was then brushed on to a sheet of glass covered with a sticky substratum. With suitable precautions, we shall obtain a single film of grains which touch each other without any superposition.

The interspaces had to be filled up by a similar process of powdering so that

no white light was transmitted. This obscuration is effected by means of an extremely fine, black powder of wood charcoal, for example.

We have thus formed a screen on every square millimetre of surface of which there are eight or nine thousand of small elementary screens, orange, green, and violet. The surface thus prepared is protected by a varnish, having about the same refractive index as that of the starch grains, a varnish as impermeable as possible, on which finally a thin film of sensitive panchromatic emulsion of silver bromide is coated.

The exposure is made in the ordinary way in any camera, but in every case taking the precaution to reverse the plate, so that the rays from the lens traverse first the coloured particles before reaching the sensitive film. It is also necessary to interpose a special yellow screen to compensate for the excessive activity of the violet and blue rays. The absorption due to the interposition of the coloured elements, although a very sensitive emulsion is used, necessitates a somewhat longer exposure than usual. Still, it is possible to obtain results in sunshine in one-fifth of a second with a lens working at f-3.

Development is effected as in an ordinary photograph, and if one is content to fix the image, the result will be, as we have already pointed out, a negative presenting by transmitted light the colours complementary to those of the object photographed. But it is preferable to re-establish the order of the colours on the same plate by chemical reversal of the image. For this the silver reduced by the developer is dissolved by a suitable bath, and then the remaining silver bromide is developed, producing a black image which is complementary to the negative obtained by the first development.

—*The British Journal of Photography.*

TRANSPARENCIES BY THE FERROPRUSSIATE PROCESS

A novel Use for Fogged Plates and Old Negatives.

BY E. CLAYPOLE

HERE is a common saying that, "there is nothing new under the sun," and although the writer claims a certain amount of originality for the following method, doubtless other workers have experimented in the same way, and probably have obtained results equally successful.

Some time ago I had occasion to make a number of prints by the Blue printing process, and the idea occurred to me that a transparency by this method would be particularly interesting.

I made a number of experiments with satisfactory results, and now have pleasure in giving my mode of procedure:—

Take an old negative, the film of which is entirely free from scratches, or an undeveloped plate, and soak in clean water for a quarter of an hour to soften the film. If an undeveloped plate is being used, clear with hypo, or if an old negative, clear away all signs of an image by the ordinary reducer, and well wash in running water for at least an hour. This washing must be complete, for the slightest trace of the clearing solution left in the film will result in yellow or green stains in the final positive.

Make up sensitising as follows:—

A

Citrate of iron and ammonia... 1½ ozs.
Distilled water..... 6 ozs.

B

Potass ferricyanide..... 1 oz.
Distilled water..... 6 ozs.

These solutions will keep indefinitely if stored in a dark cupboard.

If the plate has been allowed to dry after washing it must be again soaked

for a few minutes, or the sensitising may be performed as soon as the film is free from the reducing agent.

Take equal parts of A and B, mix just before use, and if necessary filter, place the plate in a tray and flood with the mixture, taking care that enough is used to well cover the plate. Allow to soak for three minutes, with an occasional gentle rocking of the tray and then give a quick rinse in clean water, taking care that no drops of water or the solution remain on the surface of the film. These should be removed with a tuft of cotton wool, as if allowed to remain they would result in spots in the transparency. This operation should by preference be conducted in artificial light; ordinary gas-light will produce no harmful effect. Dry quickly by standing with one corner on a piece of blotting paper, in the dark, or a few feet from a clear fire in the evening under a table, care being taken that no white light is allowed to reach the now sensitive plate.

When quite dry clean the glass side and place in a printing frame in contact with the negative, film to film, and print by preference in direct sunlight. Depth of printing may be judged by viewing through the back of frame by transmitted light, and when correctly printed the shadows should be a deep, transparent blue.

Development is, as in the paper process, by washing in water, but to the final water add 3 or 4 drops of hydrochloric acid; this will intensify the image, and make the general effect more brilliant. Again well rinse and when quite dry, if the result is not satisfactory

(which is very unlikely if the instructions have been faithfully carried out) the whole process can be repeated, the positive soaked, re-sensitised, and when again dry, carefully fitted over the original negative, and printing completed; or the whole may be cleared by flooding with a dilute solution of caustic potash (a piece as large as a pea dissolved in 3 ounces of water), and we may commence operations again on a fresh negative.

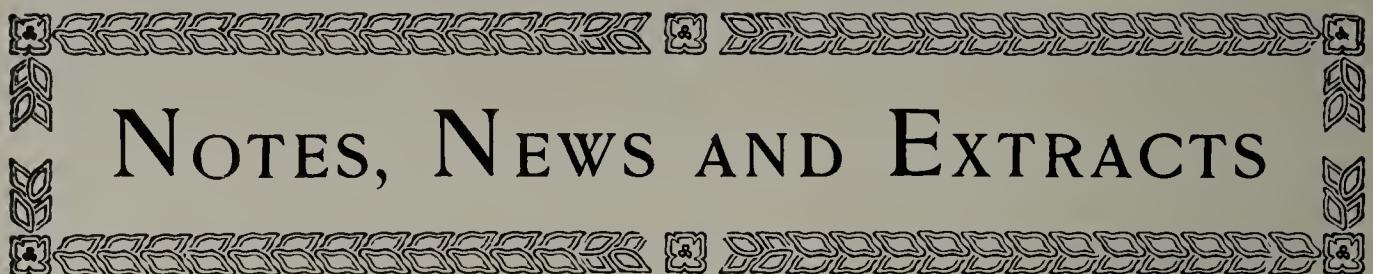
The final operation consists of mounting the finished transparency, and this must be left to the artistic judgment of the reader. He may bind in the passe-partout style with a piece of glass and hang in a window, he may use tinted papers with varying effect, or he may

stain other old negatives (after clearing as before mentioned) with various dyes. If he stains with yellow he will produce a transparency in green, etc.; in fact, he may in a small way realize the delights of the tri-colour process of photography. There is no limit to the possibilities of the process in the hands of an interested worker, and further, instead of, as in so many photographic processes, his results being liable to fade, the transparencies obtained by this method will increase in brilliance by the action of the light. Try it, and the simplicity of the operations and the delightful results obtained will be the delight of yourself and the wonder of your friends.

—*Focus.*



By O. C. Conkling.



NOTES, NEWS AND EXTRACTS

California Photographers' Relief Fund. **An urgent appeal to every photographer in the country.** Inasmuch as there will undoubtedly be much suffering and deprivation on the part of the California photographers by reason of the recent disaster, it seems proper that the fraternity all over the country should hasten to relieve their distress.

To that end an Emergency Committee was appointed by the Chairman of the Metropolitan Section of the Professional Photographers' Society of New York, which met at the studio of Mr. Falk and organized the "California Photographers' Relief Committee." It was decided to start a National Fund by a popular \$5.00 subscription, and to *invite the co-operation of every photographer of the country.*

The purpose of this fund is to assist in re-establishing our unfortunate brothers in business at the earliest possible moment.

The Metropolitan Section has raised \$500.00 from the Photographers of Greater New York within twenty-four hours, and the Albany Section P. P. S. of New York has agreed to contribute a minimum of \$200.00.

Please send your check TO-DAY to Joseph Byron, Treasurer, California Relief Committee, 53 West 32d Street, New York City.

B. J. FALK

THEO. C. MARCEAU

E. B. CORE

PIRIE MACDONALD

J. G. GESSFORD.

A. F. BRADLEY

F. E. BAKER

JOSEPH BYRON, *Treasurer*

CURTIS BELL, *Secretary*

Committee

Keep the Print Immersed.—Most beginners make the mistake of constantly pulling the print out of the developer to examine it, and this is a habit they should check at once, as stains and discolored lights arise from indulgence in it. There is no need whatever to remove the print from the solution and to hold it up to the light, yet one sometimes notices a beginner repeating this operation from force

of habit half a dozen times during the development of a print.

Summary of the Annual Meeting of the American Federation of Photographic Societies, held in New York City, March 21st, 1905.

Societies represented in person: Boston Camera Club, Columbia Photographic Society of Phila., Metropolitan Camera Club, Philadelphia Art Club, Pittsburg Academy of Science and Art (Photographic Section), Providence Camera Club and The Salon Club of America.

The following resolutions were adopted:

The Third American Salon to be conducted under the same rules and Jury system of selecting and judging entries as governed the Second Salon.

Instead of providing a purchase fund of \$100 for the best picture in the exhibition, the Federation shall purchase three pictures, to be selected by the Artist Jury, at double the catalogue prices; the total not to exceed \$200.

The lantern slide interchange and competition to be discontinued for the present.

The offer of a purchase fund by the Landmark Pub. Co. for the negatives of two outdoor rural scenes at \$75 and \$25 each, to be selected by the Artist Jury, was accepted.

Resignations of President Bell and Secretary Knox were presented and accepted with a vote of appreciation of their able and efficient conduct of the respective offices.

The following officers were elected for the term of two years beginning July 1st, 1906. The President for the unexpired term in addition.

President—Geo. T. Power.

1st Vice-Pres.—R. L. Sleeth, Jr.

2nd Vice-Pres.—Chas. E. Fairman.

3rd Vice-Pres—Adolph Petzold.

Treasurer—John H. Thurston.

Salon Director—Louis Fleckenstein.

Historian—Daniel Baker.

The President has the appointment of a Secretary for the new and unexpired terms.

S. C. BULLENKAMP,
Acting Secretary.

In further enlargement of the scope of the Syracuse Museum of Fine Arts as an instrumentality for developing popular sentiment for artistic and esthetic culture, not only in the city of Syracuse, but also in Central New York generally, Professor George F. Comfort, the Director of this Meseum, is arranging to hold in its new gallery in the Syracuse Public Library (Carnegie) Building, an exhibition of Art Photography and Photo-Engraving, as produced within the general "up-State" region, not including the "Metropolitan District," of New York City and vicinity.

Photographers (professional and amateur) and photo-engravers within this territory are invited to send examples of their work for this exhibition in time to be received at the Syracuse Museum of Fine Arts not later than June 1, 1906. The Museum will meet the cost of expressage both ways on exhibits and will cover all expense of the exhibition, which will open on Saturday, June 9, and will continue for one month. Intending exhibitors can procure exhibition cards and any further information desired by addressing Professor George F. Comfort, Director of the Museum of Fine Arts, Syracuse, N. Y.

Toning Slides by Chlorizing. There are quite a number of methods for altering the color of lantern slides, which are based originally upon the conversion of the picture back into silver chloride, which is then modified by treatment with another solution. A still simpler plan, but one that has never been regarded as very effective, is to allow the bleached slide to darken spontaneously in the light, a plan suggested in these columns several years ago. At a recent meeting of the French Photographic Society M. Le Mée showed some slides which he had obtained by a modification of this method, which was as follows: The slide when fixed, washed, and dried was immersed in a five per cent. solution of potassium of bichromate containing three per cent. of hydrochloric acid. This completely bleached it, converting the silver image into silver chloride. It was then washed until the yellow color caused by the bichromate had completely gone. If such a plate is exposed to light it will darken, but only very slowly, owing to the absence of any satisfactory "sensitizer," such as the soluble silver salts which are present in P.O.P. The action, therefore, if unaided, may take several days. This is got over by M. Le Mée by exposing the bleached and washed slide to light in a dish, covered by water, to which has

been added a little sulphurous acid. At the end of a few minutes in direct sunshine, or of an hour in diffused light, the decomposition of the chloride is complete. The slide must be turned over and exposed on both sides to make sure of the action going right through the film, and it should be continued until all trace of whiteness is gone whichever side is looked at. Instead of the sulphurous acid a solution of silver nitrate may be used, but this must be made up with distilled water, or silver chloride will be precipitated from it, which will darken in the light, and may stain the film, besides preventing the light from getting to the film to darken it, as is wanted. Slides toned in this way may have their color still further altered by toning with gold, for which purpose one of the ordinary baths of gold chloride and sodium acetate or chalk may be used. This gives warmer colors than the original possessed. There is, of course, no need to refix slides treated in this way. If they are immersed in hypo the image will be considerably reduced, and made greyish in color. A bath of weak ammonia gives them a brownish tone.

The Pennsylvania Convention It is just about the right time to say a word to you, brother photographer, on the subject of the Pennsylvania Convention, which meets in the most beautiful city of this or any other country, in May, the loveliest month of the year.

The city of Washington, in May, is paradisaical in the glorious sky colors, magnificent landscapes, and the structures of empire which our fathers builded. It is a full, rich inspiration to your Art and your patriotism and while we will make no stereotyped assurance that the Convention will transcend all others, we will say that no pains will be spared to make this an ideal convention.

We will engage the very best and most successful photographers in this country as lecturers, who will tell you how they achieved fame and success.

The show of fine pictures will be the best this country affords. If you care for prizes, there will be some fine ones to work for. The social features will be many.

Will you starve your own artist life by staying away from all these sights and sounds? Don't do yourself or your fellows that injustice. Come out into the wide field of our fellowship.

THE EXECUTIVE BOARD OF THE PENNSYLVANIA

CONVENTION.

A. T. PROCTOR, President.

New Intensification Methods.—A number of workers have recently been publishing revised methods of intensifying, which methods in the first place emanated from Dr. Eder, of Vienna, and were subsequently examined to a slight extent by Messrs. Hurter and Drifford. The process consists in bleaching the negative with potassium bichromate, and then applying a developer. Under certain circumstances a considerable increase of intensification takes place, and as the operation can be repeated a number of times there is practically no limit to the degree of intensity obtainable. Mr. Sellors gives a few practical details which will put my readers intending to experiment with the process in the way to proceed. The solution is made as follows:

Potassium bichromate	10 gms.
Hydrochloric acid	5 mins.
Water	1 oz.

In this the negative is bleached and then thoroughly washed to remove all traces of the bichromate. It is then exposed to any bright light for a short time, and redeveloped with any suitable developer. According to Mr. Sellors pyro gave a markedly greater intensification than the more modern developer such as metol and amidol.

On Drying Glass Negatives.—To place a wet negative in a position so that it will dry evenly and free from surface imperfections, is a very simple operation, yet one over which many beginners come to grief. A negative just removed from the washing tank should not be placed to dry on the shelf, with its lower edge resting against the woodwork; neither should the negative with the film still sopping wet be stood on either of its four corners. In either case the moisture will suck up the dust clinging to the shelf, while the density of the lower edge of the negative will often be uneven; and will differ from the upper portion. Before placing the negative to dry—and immediately on its removal from the washing tank—it should be mopped down with a piece of cotton-wool. Then stand the negative either in a drying rack, especially made for the purpose, or resting on one corner on the shelf, but only after first covering the latter with a sheet of pure white blotting paper. Drying racks should be used as follows:—Do not place the negatives therein film to film, but two or three groves apart, and always film to glass. Especially in cold weather, negatives carelessly placed in the rack will dry unevenly and patchy. An improvised drying rack may be made from a cane-bottom chair, or a few nails driven into the wall—the negatives resting corner-ways therein.

"Frilling."—Although summer time, with its brilliant light, is welcome to the amateur, there are drawbacks which sometimes make him wish he could have the bright sunshine of summer without its heat. For as soon as the hot days come, the amateur finds that the woes of the dark room are increased by that bogey known as "frilling." It is a sore trial to one's patience to find that a plate which developed splendidly and gave every promise of being an excellent negative, on being put in the fixing bath, or when removed from the final washing, has taken to frilling in a most pronounced manner. There are many causes for frilling, some of which are under the control of the photographer. For instance, it is often caused by using a developer too strong in alkali, or by not keeping the various solutions used at an equable temperature. With some plates, too, frilling will manifest itself if the fixing bath is too strong. One of the best remedies is a bath composed of $\frac{1}{2}$ ounce of chrome alum to 20 ounces of water. It is also recommended that after the negative has been fixed and washed, it be placed for a few minutes in methylated spirit.

Vignetting Masks.—Of all the vignetting masks which have been put upon the market there is none (says the *Bazaar*) that equals in all respects the simple contrivance fashioned out of a sheet of opaque material. Cardboard is commonly used, but thin sheet lead, such as is used for roofing purposes, or even tea lead, has many advantages. An opening is cut in the center of the shape, but very much smaller than the head and bust that is to be vignetted, and from this opening, radiating outwards, a number of slits are cut with the scissors. These angular pieces, which remain attached to the sheet by their bases, may be hammered along each edge until they overlap a little, and may then be bent outward to allow the light to fall as required, or laid down flat when only a small opening is wanted. As lead is extremely pliable, and has no spring, each piece lies as it is bent, whereas cardboard is more or less troublesome to manipulate. The secret in getting soft vignettes is to have the opening smaller than the image, and to support the mask at an inch or so in front of the printing frame. A simple method of doing this is to fix the bottom or top, of a plate box to the frame by the edges. A fairly large hole is to be cut in the center, and the sheets of lead may be fixed on top by slips of gummed paper. The light may be softened and diffused still further by laying a sheet of tissue paper over the opening in the mask.

BOOK REVIEWS

Penrose Process Year Book. By Wm. Gamble. A splendid showing of the possibilities of modern reproduction methods. Brief contents: The Ideal Plate for Orthochromatic and Three-colour Work. The Best Printing Process for Small Hand Workers. Half-tone Blocks by the Bitumen Grain. Lithographic and Process Work on Textile Fabrics. The Calculation of Exposure—some new methods. Three-colour Work without Filters. The Artist and Halftone Man. Printing Methods in Relation to Photo-Mechanical Processes, etc. 1905. 168 pages; 283 illustrations. Cloth, \$2.50. Tenant & Ward, American Agents, 287 Fourth Avenue, New York.

Collodion Emulsion. By H. O. Klein. The only text book on this important subject. Brief contents: The Chemical Composition of Collodion Emulsion. Increasing General Sensitiveness by Means of Chemical and Organic Sensitizers. Sensitizing of Collodin Emulsion for Different Parts of the Spectrum. The Chemical Composition of Colour Sensitizers—their Suitability and Selection. Elementary Principles of Trichromatic Work. Chemical Changes which take place during Developement, Fixing, Intensifying and Reducing. Dark-room Illumination and Selection of Dyes Suitable for Light Filters. Collodion Emulsion without Colour Sensitisers. Collodion Emulsion with Colour Sensitizers. 1906. Illustrated; 95 pages. Cloth, \$2.50.

"Deutscher Photographen Kalendar 1906." By K. Schwier, Part I. Published by "Deutschen Photographen-Zeitung." Weimar, Germany. Price, Mk. 2.c.

This book is in its usual convenient size for the pocket. It forms a real pocket companion, combining a calendar, diary and photographic reference book and contains almost 600 photographic formulas, and many valuable tables. Among the latter are many which are useful in our daily work.

"La Fotografia Senza Obiettivo." By Dr. Luigi Sassi, with 27 illustrations and 12 tables. Published by Ulrico Hoepli, Milan, Italy. Price L. 2.50.

"I Primi Passi in Fotografia." By Dr. Luigi Sassi, with 29 illustrations and 13 tables. Published by Ulrico Hoepli, Milan, Italy. Price L. 2.0.

These are two interesting little books, just the proper size for the pocket, measuring only 10x15 c.m. (4x6 inches) "I primi passi in fotografia" is the book for the tyro. It tells him in simple language all that is necessary to know for the production of the negative and subsequent printing. This book is a good introduction to photography and ought to be followed by Dr. Muffone's "Fotografia per i dilettanti" mentioned elsewhere on this page. The other volume by Dr. Sassi is "pin hole" photography. Few are aware of the wide range of work that this kind of photography can be applied to. Dr. Sassi found that not only can landscapes, with which we are all familiar, but also such difficult things as portraiture, copying, interior, panoramas and architecture lie within the scope of this interesting and simple "lens." The book gives complete directions for making the necessary apparatus.

"Fotografia per i dilettanti." By Dr. Giovanni Muffone, sixth edition, revised and amplified. with 290 illustrations. Published by Urico Hopeli, Milan, Italy. Price, L. 4.50.

It is only a few years since the publication of the first volume of Dr. Muffone's book, which met with instant favor. Other editions followed rapidly, until it is now in its sixth edition. It has been completely revised and amplified. It contains besides the text illustrations, about 150 photographic studies.

TRADE NOTES

Trier and Bergfield River Avenue and 151st Street, N. Y., make card mounts, and an up-to-date snappy line, correct in style, finish and quality for both the professional and amateur. This company has always been exceedingly conservative in its line abstaining from freaks and so-called novelties of short existence and a perusal of its Book of Styles for 1906 will prove both interesting and profitable. The Belmont Folder will appeal forcibly to the amateur desiring to specially mount some extra choice specimens, and the professional will find an exceedingly large line to select from.

The Anthony & Scovill's 1906 Catalogue of Cameras and supplies for the amateur is an exquisite production. With its dainty refined cover design and clear cut pictures of the latest Anseeo products it will be well worth your while to look it over before making your Spring purchases. Get a copy from your dealer or write direct to The Anthony & Scoville Co., Binghampton, N. Y.

Success in Photography depends more than anything else on exposure, a correctly exposed negative will almost develop itself. Some of us guess at the correct exposure and from a long succession of failures, finally arrive at a happy medium—sometimes. There is a way, a thoroughly reliable one to determine the correct exposure every time, and that is by using a Wynne Exposure Meter.

Sometimes, in fact many times your shutter does not afford the indicated speed, what then? The same people that make the Wynne Exposure Meter have devised a Shutter Speed Tester, that is just as sure as the Exposure Meter. Both the Tester and the Meter cost but little, far less than you will expend in lost plates and time without them. In a few days or weeks you will be out with the camera again. Its a good tip. Drop a line to the Infallible Exposure Meter Company, 81 Keap Street, Brooklyn, N. Y.

Wild Flowers with a Kodak Portrait Attachment.

Right off the reel you wouldn't imagine that a lens purchased for half a dollar would or could be of much advantage in serious work.

We can, however, mention one brilliant exception and that is the Kodak Portrait Attachment. This little supplemental lens has been on the market and well advertised for a number of years, but from the fact of its being advertised as a portrait attachment the amateur has over-looked many of its advantages.

The object of this lens is to permit of sharp focusing up to $3\frac{1}{2}$ feet and consequently affording a larger image. Just this advantage makes it exceedingly valuable in photographing any small object such as wild flowers, small animals, and, in fact, any object that would appear too small in the print when focused at eight or ten feet, the ordinary capacity of the Kodak.

Many photographers make it a point to always carry one of these attachments with them on every outing as conditions are constantly arising wherein this little lens becomes invaluable.

The 1906 Catalogue of the Seneca Camera Co., of Rochester, N. Y., is just off the press, and is an exceedingly handsome and attractive book. The line of Seneca Cameras for this year is a most comprehensive one, embracing almost every type of instrument from the Baby Film Seneca at one dollar, to the lordly eight by ten View Camera. The entire line is constructed in the most approved and practical types, and should find ready favor with the discriminating photographer. One practical feature introduced is the carrying case for the Seneca View Camera, constructed in the form of a dress suit case and opening on the side. The Seneca No. 9 is a marvel of compact and ingenious arrangement, and will instantly appeal to the critical old timers. The catalogue will be sent on request.

Heres a new Silent Studio Shutter
that will command attention of every professional. The Root Silento Shutter manufactured by the Kalamazoo Shutter Co., Kalamazoo, Michigan. This shutter is absolutely silent in operation, and moreover it is as practical as it is silent.

The "Silento" Studio Shutter is made entirely of metal, with the single exception of the strong wooden bushing upon which the wings close. All working parts are made from the finest hard drawn brass and tool steel, which make the very best bearings. Besides it is arranged so that any looseness or wear may be easily and instantly taken up by means of set screws and pivots.

The engine, which is one of the most important parts to a shutter, is made of hard seamless brass tubing, polished inside and outside, and strongly mounted upon the metal base of the shutter.

The operating mechanism is very strong and extremely simple, being a rack and pinion specially made for this shutter. The wings are made from thin, strong metal, and firmly riveted to the side rods.

There is nothing to get out of order about the "Silento" Shutter. It is easily cleaned, and should last for years without any attention whatever.

The "Silento" Shutter gives practically uniform lighting all over the plate.

It balances open for focussing, etc.

It is very thin (3-16 of an inch) and light and gives the largest opening according to outside measurements of any shutter made.

There are no springs or weak parts to get out of order or break.

There is no rubber, either hard or soft to crack or leak.

The "Silento" is exceedingly quick and easy in action and responds instantly to the first portion of the bulb pressure.

The "Silento" is so made that it at once impresses one with its quick, smooth and silent action as being the very perfection of shutter making.

The Turner Patent Declared Void

A decision was handed down yesterday by the United States circuit court of appeals for this circuit, Judges Wallace, Lacombe, and Townsend affirming the decision of Judge Ray in the United States circuit court in the suit of the Eastman Kodak Co. vs. the Anthony & Scovill Co., holding that the patent granted

to S. N. Turner, May 21, 1895, and owned by the Eastman Kodak Co. is void.

The litigation referred to has been of special interest to dealers in photographic supplies throughout the country, as well as to amateur photographers. This particular daylight loading film cartridge was first brought out in the spring of 1892 by the patentee, Samuel N. Turner. It met with a good reception, and in the summer of 1895 Turner's business, together with the patent, was purchased by the Eastman Kodak Co.

The cameras put out by the Eastman Co. were designed so that the daylight loading cartridge was particularly suitable for them. These cameras, which were given the popular and euphonious name of "Kodak," were sold in considerable numbers, and each one became a consumer of cartridges. This, with the ever-increasing interest of amateurs in photography, caused the business in such cameras and cartridges to increase rapidly, and the Eastman company prospered.

In the spring of 1903, the Anthony & Scovill Co., which was a combination of the old house of E. & H. T. Anthony and the Adams & Scovill Co., entered the field in competition with the Eastman company, they having been advised and believing, not only that the Turner cartridge patent was void, because not patentable, in view of what others had done at an earlier date, but also because Turner did not design it, and had no right to make the application for patent.

Suit was brought immediately by the Eastman company, the final result being that the court of appeals has held that the patent is void for want of patentability, in view of the earlier devices known in the art.

The result of the litigation is the destruction of the Turner patent, and this relieves the Anthony & Scovill Co. and its customers from any charge of infringement or claim for damages.--*New York Commercial*, April 6, '06.

"Time has raised it above competition."

Most of you remember this catch line of the Rochester Optical Company's advertising some years ago. Although they have ceased using this particular phrase, its application still seems to hold good if we can judge of such things from the handsome Premo catalogue just received. There are Premos for film, Premos for plates, and Premos that will use both.

The little Premoette that just fits in the palm of the hand is a mechanical and optical marvel and will prove a source of never ending pleasure to the man who always wants a camera with him. Then there's the Film plate Premo, the Reflecting Premo, the Stereo Premo and a line of magnificent view cameras, so many good things, that we haven't room to tell about them. Hardly worth while though, as the photographer who is "wise" would not think of purchasing a camera till he had perused the Premo catalogue. Most any dealer can furnish the catalogue; if not write to the Rochester Optical Company, Rochester, N. Y.

Ask your dealer to show you the new Artists and Lakeside albums just out from the Kodak City.

You will wonder how so much quality can be given for the price and will find them ideal for the purpose when desiring to present a friend with a set of prints as a memento of some special occasion.

The Artists album is made on the loose leaf system, so you can always make it just the right size.

Extra leaves and tissue may be readily inserted at any time.

The center of the front cover is a smooth panel for any special lettering you may wish to use.

The leaves are of heavy stock with a rough finish affording a most artistic effect to the print, and are furnished in Sepia, black and white leaves allowing you to make use of any printing medium.

Between each leaf is bound a sheet of ribbed tissue protecting the prints from rubbing and adding materially to the effect of the album.

The Lakeside album is made in four sizes and is furnished only in black cover and leaves.

The Lakeside album contains 20 leaves of superior stock, and either one of the series will find ready favor.

Why Low Shutters Operate so Rapidly

and Easily. In the first place they are designed and built upon the "Balance Principle."

This "Balance Principle" requires that every Low Shutter be in perfect poise when *exactly half way open*.

In this manner the "dead weight" of the wings in a Low Shutter is entirely eliminated, both in opening and in closing.

On this account the wings of a Low Shut-

ter always respond *instantly* to the *first portion* of the bulb pressure.

Also on this account the power required to operate a Low Shutter is but a *fraction* of that needed to operate an ordinary shutter.

No other shutter is so designed as to take care of the "dead weight" or inertia of the wings and working parts.

This is one reason why all Low Shutters are immeasurably *swifter*, *smoother* and *easier* to operate than any other shutter.

Another reason is that there are no complicated levers or parts, springs or toggle joints, either inside or outside of Low Shutters. Every movement is mechanically correct and extremely simple, thus doing away with the wear and jar found in other shutters. Every motion in Low Shutters is absolutely uniform and steady. The wings open and close with precisely the same great speed, ease and evenness.

These features are worth many dollars to the live photographer every month. They make it possible for you to forget with safety your shutter, and to devote your entire attention to the sitter.

When taking a child or group there is usually one favored moment *during* which you should make the exposure. You are waiting for that moment, and instinctively grasp the bulb. With a Low Shutter you get the *full value* of the moment, while with others you get about one-half of the exposure when you want it, and the balance afterward. In other words, a Low Shutter operates when the bulb is pressed, and is quick as thought itself, and other shutters operate only after a large part of the pressure has been applied.

Pretty good reasons are they not?

Ask your dealer to show you the new Low Shutters.

Now is the time for beautiful blue skies and white fleecy clouds that add so much to the beauty of the landscape.

What can be nicer than a series of prints from such negatives printed on the new blue post-card the Eastman Ferro-Prussiate Post Card.

The coating is not the ordinary blue print but an extraordinary deep rich blue, affording every tone and gradation of the original negative.

The blue print card is the ideal process for the tourist not wishing to bother with solutions, all that is necessary is to print in the sun for a few minutes, wash in cold water and 'tis done.

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EXCHANGE.—4x5 triple extension "Korona" 1901 pattern, for extension pocket plate camera or 5 in. anastigmat. Charles V. Weiler, Flemington, N. J.

FOR RENT—A new and modern photograph gallery in a new building in New Kensington, Pa., a hustling, growing city in center of 10,000 population. Practically no competition. An elegant opportunity to build up a thriving business. For particulars address H. J. Logan, New Kensington, Pa.

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ELEGANT GROUND FLOOR STUDIO FOR SALE—My splendidly located ground floor studio, situated in the very choicest part of Cleveland's residence district, for sale. All conveniences, natural and artificial gas, electric light, steam heat. Chance of life-time for good workman. If interested send for photos of studio and full particulars. J. Erickson, 721 Hough Ave., Cleveland Ohio.

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FOR SALE.—Centrally located Studio in N. Y. State town, 3000 population, 10 miles of country to draw from. Sold for little more than cost to furnish it. Address, H. care of PHOTO TIMES.

MONTAUK GRAY-DAY Camera for sale. 5x7, long focus, fitted with an anastigmat lens. Also tele-photo for same if desired. Any one desiring a high price camera cheap has here a bargain. For particulars call or inquire of Wm. H. Stott, Des Plaines, Ill.

PHOTOGRAPHIC MAGAZINE FOR SALE.—Photo Era, Vol. I to XVI inclusive; Camera Notes Vol. II to V; Wilson's Photo Magazine 1890 to 1903; Photo Times Bulletin 1886 to 1904; Anthony's Bulletin 1891 to 1901; International Annual Vol. I to XIV; etc. Complete volumes; perfect condition; cheap. George R. Seiffert, Lock Box 41, Phila., Pa.

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FIRST CLASS Retoucher wants position. Strictly temperate Request samples and references. Lyman T. Place, R. F. D. No. 8, Oswego N. Y.

WANTED—Position by a first class workman. Can handle all branches of the work. Address Box 546, Effingham, Ill.

Wanted.

WANTED—Carbon printer, send samples, references, state salary. F. Gutekunst, 712 Arch street, Philadelphia, Pa.

WANTED.—To buy or rent photograph gallery, furnished or unfurnished, in large city, or would buy half interest. New York, Brooklyn Cincinnati or Chicago preferred. Address, stating price and full particulars of what you have Box 496, Pittsburg, Pa.

Eastman Kodak Company

ROCHESTER, N. Y., *The Kodak City.*

A SETTLED QUESTION

Roland Rood, the painter and art critic, commenting on the exhibit at the Little Galleries of the Photo Scession, has this to say regarding the pictures by Eduard J. Steichen :

" For a long time I have withheld passing any judgment upon Steichen's work, for, although I have greatly admired it, yet I always felt that there was something unphotographic about it, * * * and as I know many others who are perplexed by the same doubts, I offer the following solution, which, however, I would stake heavily, is the right one :

It is exceedingly simple. Steichen is unphotographic, you are quite right, *but he uses pure photography to accomplish these unphotographic results.*"

On this same topic a portion of an editorial in the last issue of Camera Work commenting on the illustrations in that number by Mr. Steichen, is apropos :

" It should be a matter of interest to all photographers that "Mother and Child—Sunlight," the chief prize-winning print in the recent International Kodak Competition, in which 28,000 prints were submitted, was made with a 4 x 5 Kodak camera and lens, on a roll film, *developed in machine* and printed on Velox paper.

" This ought to be sufficient answer to the many charges that Mr. Steichen's acknowledged superior skill is dependent upon faking negatives and prints or both."

The employment of mechanical development by an expert of Mr. Steichen's reputation is conclusive evidence of its merit ; if machine development will produce better results than dark room manipulation by a man of surpassing dexterity and resource, it must be adopted by all desiring the highest percentage of good results.

The prime consideration in adopt-

ing any method of execution is the quality of the result, the second consideration is that of convenience, and there is no room for argument as to the convenience of mechanical or tank development, the question of results having been established, nothing can outweigh the advantage of working in daylight, anywhere without bothersome preparation.

Experience has proven that the quality of the negative is determined solely by the time of exposure, and no manipulation or special treatment during development can alter it.

Error in exposure, within the average range, has been provided for by the latitude of Kodak film.

Quite a variation either way from the normal exposure will only result in different degrees of density, not contrast, and prints from negatives of different density can be made equal in quality by simply varying the printing time.

Aside from this, tank development eliminates the possibility of fogging the film by exposure to light during development ; scratching or marring the film is also rendered impossible.

As to convenience, films may be developed in the Kodak Tank Developer any time and by any light, entirely doing away with the dark room.

The entire operation consists in rolling the film in a light proof apron, this requiring but a few seconds, then film and protecting apron are placed in the tank containing the solution, the cover put on, no further attention being necessary except to occasionally reverse the tank.

The tank, transferring reel, etc., all pack into the transfer case and occupy but small space, readily finding room in suit case or trunk.

For either beginner or experienced worker the Kodak Tank Developer ensures the highest average of good results with the least effort, and maximum convenience.

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THE EASIEST WAY.

There is great satisfaction in doing things neatly, affording the professional touch as it were.

In mounting a batch of prints or making up an album it is a great satisfaction to have each print lie true and flat without any curls or cockles and not showing any lumps or bumps on the surface.

Once in a while some of the pet negatives are printed from and a special mount needs be devised to afford appropriate setting; out come the different shades of mounting papers, to determine just the right effect, sometimes several sheets must be cut and laid one over the other to secure just the correct balance. Here's where our skill is taxed to do the thing neatly.

If we only tip the corners or edges, it takes but a little handling, some part gives way and it's another case of Love's labor lost.

The easiest and quickest way to mount any sort of prints on any mounting is to use the Kodak Dry Mounting Tissue. In the first place you are sure of results.

The print stays mounted ; you can eliminate the question of curling, don't have to bother about that, neither do you have to wonder if any thing in the mount will discolor the print, this leaves you free to employ, when desired, any of the many attractive cover papers so extensively used in multiple mounting.

Nothing could be simpler than the actual operation of mounting with the tissue.

If you are mounting the prints full size, all you have to do is open a package of tissue, turn the print on its face and lay on its back a sheet of the tissue. Just touch it in a couple of places lightly with a hot flatiron, this holds it in position, if your print needs trimming, turn it face up and trim to size,

then put it in position on the mount, cover the print with a sheet of clean smooth paper, press for a moment with the hot iron. That's all there is to it.

The print is mounted to stay, in entire contact and absolutely flat.

If you have a lot of special sizes to mount, the tissue can be purchased in rolls and readily cut to size desired.

The tissue coming in flat, dry sheets makes it especially agreeable to handle, and there is no fear of its drying up or growing stale.

HITLESS GUNS.

A certain war correspondent in his despatches home attributed the rout of an opposing army to the use of burnless powder in hitless guns.

This somewhat facetious remark has its application never the less and that is don't start a campaign unless properly equipped.

Don't, for the sake of a little doubtful economy, experiment with the "just as goods."

It is always the picture you wanted the most, the opportunity for making which can never occur again that you slipped up on. You have to take chances with your own liability to err but you don't have to take such chances with your equipment or material.

In photography, you are protected as to quality and reliability by goods marketed under the well known names; Eastman, Kodak, Velox, Nepera. All products bearing these names are known the world over as standard and of the highest quality with the benefit of the ablest technical skill and years of experience behind them.

The Kodak Portrait Attachment not only enables you to make large bust pictures but also to photograph any small object at close range.

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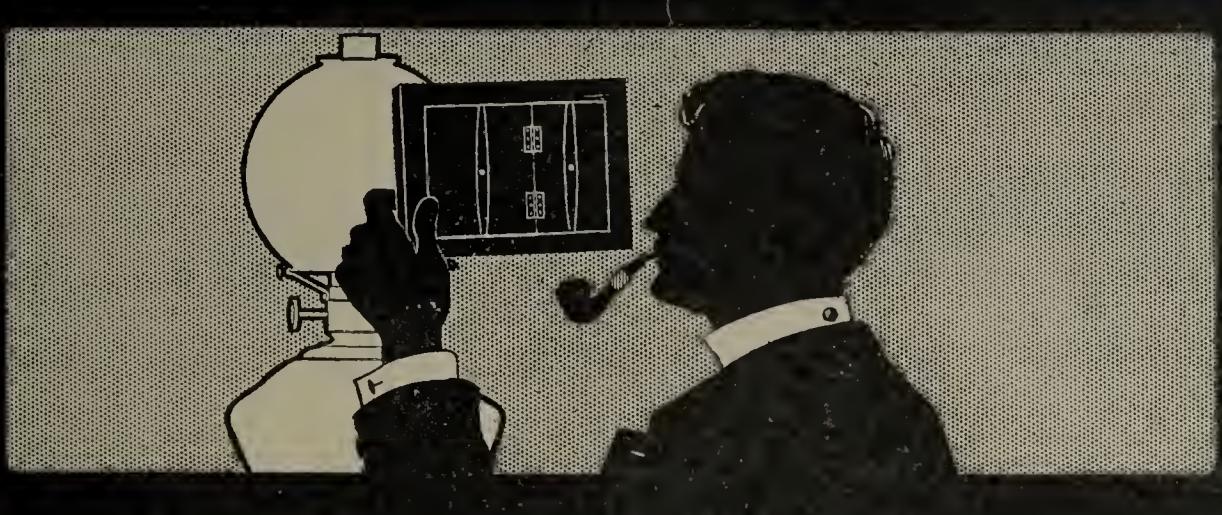


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Develop where and when you please and all by daylight.

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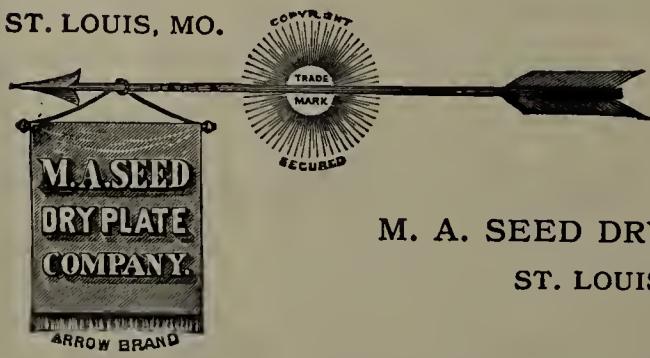
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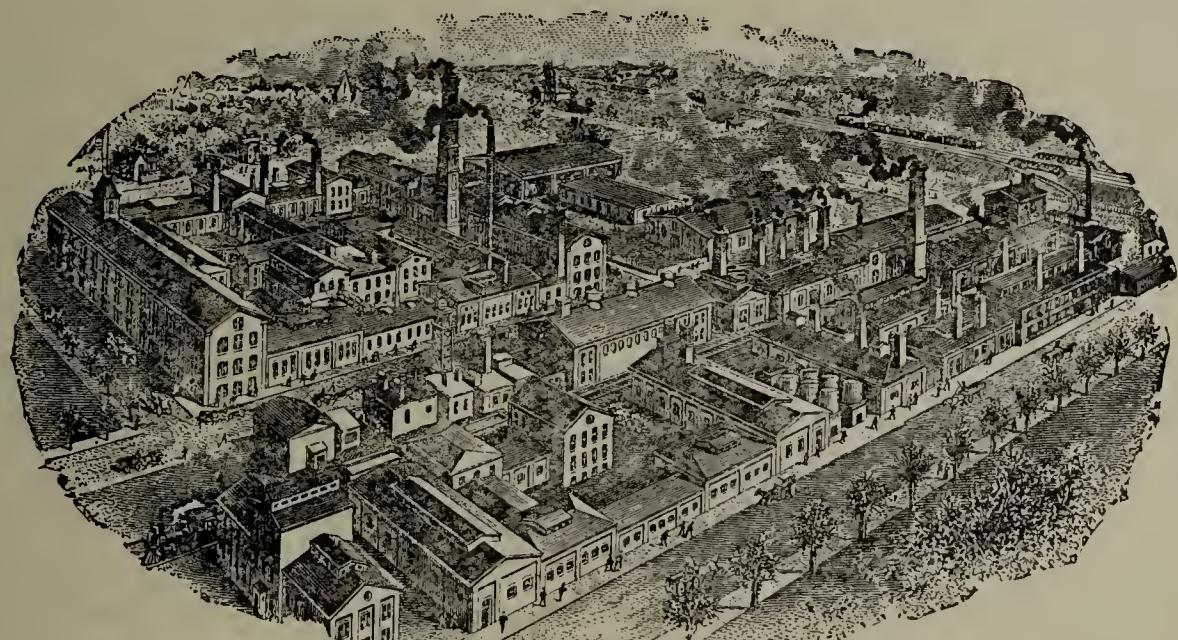
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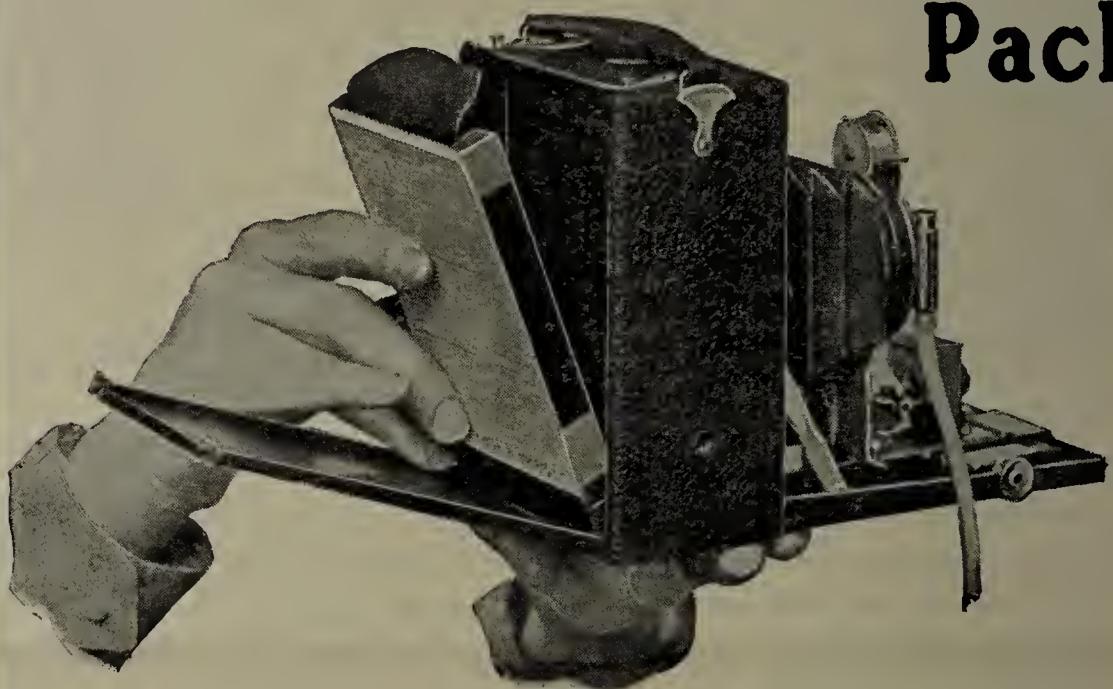
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WE acquired this lens by purchase from the company that for a number of years manufactured it, and now offer it improved both in optical qualities and mounting. There has always been a demand for a really good anastigmat lens at a medium price, and the Wollensak Royal Anastigmat answers that description.

It insures absolute correction from astigmatism or other optical errors; its construction insures permanency, no matter what the climatic or atmospheric conditions may be; has the least number of reflecting surfaces with a maximum brilliancy of image.

This lens, like everything else we manufacture, is covered by our broad guarantee, and is sold by photographic dealers everywhere.

Send for illustrated booklet telling of this and other products of our factory.

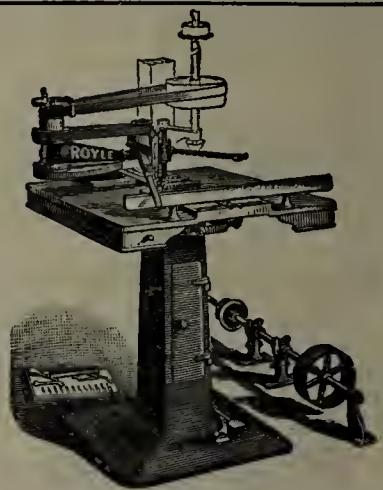
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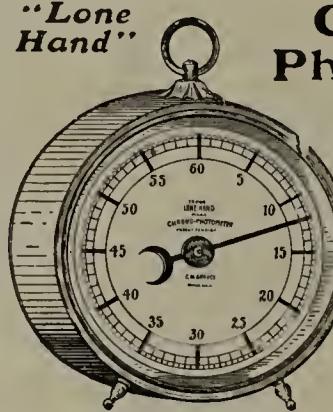


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built by John Royle & Sons, Paterson, N. J., is of value because it does its work rapidly and well; is simple and easy to handle, and does not get out of order. We have large and small machines for large and small plants.



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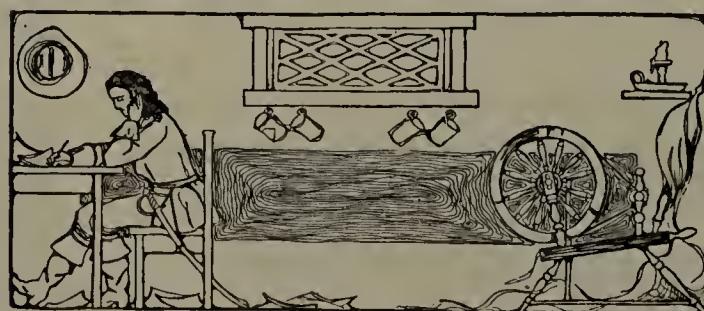
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WE note an increasing interest in our photographic competitions and if this continues will plan a number of special contests for 1906. For the present any subject may be entered as we desire to insure a large number of prints for our judges each month.

Prizes will be awarded as follows: First prize, \$10.00; second prize, \$5.00; and three honorable mention awards of a year's subscription to "The Photographic Times."

CONDITIONS

Prints in any medium, mounted or unmounted, may be entered. As awards are, however, partly determined on possibilities of reproducing nicely, it is best to mount prints and use P. O. P., or developing paper with a glossy surface. Put name and address on *back* of each print, and prepay postage at the rate of one cent for each two ounces.

Send particulars of conditions under which picture was taken separately by mail. Data required in this connection: light, length of exposure, hour of day, season, and stop used. Also materials employed as plate, lens, developer, mount and method of printing.

No print will be eligible that has ever appeared in any other American publication.

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Prints must reach us thirty days before the issue for which they are intended. Entries for July close May 31st. Prints received too late for one competition will be included with entries for the following month. Entries for August close June 30th.

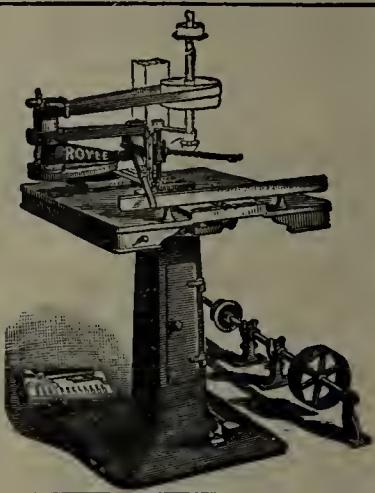
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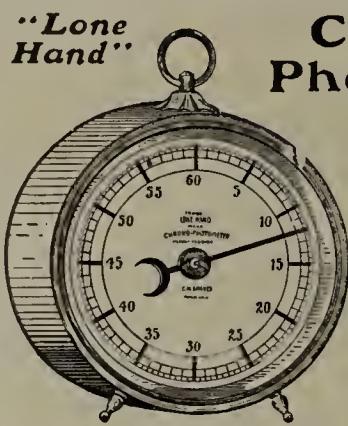
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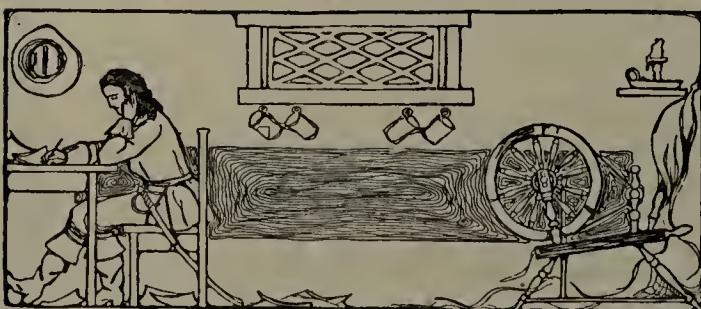
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Monthly Photographic Competitions for 1906

WE note an increasing interest in our photographic competitions and if this continues will plan a number of special contests for 1906. For the present any subject may be entered as we desire to insure a large number of prints for our judges each month.

Prizes will be awarded as follows: First prize, \$10.00; second prize, \$5.00; and three honorable mention awards of a year's subscription to "The Photographic Times."

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